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2 January, 1915

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

During the week ending December 19, the maximum temperature was 53, minimum temperature 21, and precipitation .27 inch.

The remainder of the forage crops from the rotation experiments were hauled in on the 15th and 16th. The following table gives the yields from the various plats this season.

Plat No.	1st cutting Date	1st cutting Lbs.	2nd cutting Date	2nd cutting Lbs.	3rd cutting Date	3rd cutting Lbs.	Total Lbs. Plat	Total Lbs. Acre	Tons per acre
8 inch drills.									
A4-12	7/2	3504	11/18	1928			5432	21728	10.9
A4-16	7/2	3494	11/18	1702			5196	20784	10.4
B4-12	6/16	2444	8/26	1432	11/17	1089	4965	19860	9.9
B4-13	6/16	2324	8/26	1676	11/17	986	4986	19994	10.0
B5-6	6/16	2420	8/26	1346	11/17	576	4342	17368	8.7
B5-11	6/16	2652	8/26	1814	11/17	1044	5510	22040	11.0
B5-15	6/16	2501	8/26	1854	11/17	1092	5447	21788	10.9
			Av.						10.2
4.1 ft. drills.									
A4-10	6/22	525	8/24	612	11/18	667	1804	9020	4.5
A6-4	6/15	946	8/13	898	11/17	1184	3028	12112	6.1
B5-5	6/15	1232	8/13	964	11/17	1062	3258	13032	6.5
B5-9	6/15	1144	8/13	1164	11/17	1390	3698	14792	7.4
B5-13	6/15	1340	8/13	1102	11/17	1482	3924	15696	7.8
			Av.						6.4
General average									8.68

The average yield of sorghum in 8-inch drills was 10.26 tons per acre as compared with 8.68 tons per acre from that in 4.1 feet drills. The season was very favorable to the production of sorghum in 8-inch drills.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued).

The west road bordering the highway was grubbed out during the week and plowing on the rotation plats was continued.

Umatilla.

During the week ending December 19, the maximum temperature was 29, minimum temperature 6.

Truckee-Carson.

During the week ending December 19, the maximum temperature was 33, minimum temperature 3.5, precipitation .22 inch.

Work on leveling the land west of field "B" was continued until the 17th, when the teams were laid off for the remainder of the year.

The fence around the plats in front of the farm buildings was completed.

Work on the tiel drain in field "H" was carried on through the week.

The weather continued cold with a light fall of snow on the 17th. Fifty-two inches of snow have been reported at the summit of the Sierra Nevada, so that an abundance of water is assured for 1915.

Mr. Headley left for Washington on the 15th, to prepare the yearly report for the station and plan the new work for the coming year.

Yuma.

During the week ending December 5 cotton picking was continued on plats D-11, 12 and A-8.

C-38 to 40, and D-39 to 40 were plowed.

Ten acres of fallow land were disced in preparation for seeding to alfalfa and small grains. Borders D-14 and 16 were seeded to Peruvian alfalfa.

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WESTERN IRRIGATION AGRICULTURE
Field Notes.

Yuma (continued).

The first killing frost of the season occurred December 4.

Messrs. Scofield and McLachlan left the station for Imperial Valley November 30. Mr. Blair spent three days during the week in Imperial Valley.

The maximum temperature for the week was 79, minimum temperature 32, and the greatest daily range 38. On December 5 precipitation amounting to .03 inch was recorded.

During the week ending December 12 the maximum temperature was 67, minimum temperature 28, and greatest daily range 38. Heavy frosts killed down all cotton and checked the growth of alfalfa in this locality.

Twenty-one acres were irrigated during the week, most of this land being fallow land for planting wheat and barley, garden and fall plantings of alfalfa.

The last cutting of Sudan grass was made from C-25 and 26. Alfalfa on D-13 to 17 was harvested.

Drive roads surrounding the farm were plowed and retouched to provide for irrigating and seeding to alfalfa.

Late alfalfa seed crops from C-27 and 43 were threshed; very light yields were secured.

A series of photographs of varieties in the deciduous orchard on B-series was made.

Cuttings were made and planted in hot bed of all the promising varieties of chrysanthemums tested this season.

Citrus trees were protected from frost by bundling in broom corn stalks.

During the week ending December 19, only three days of field work were possible. A slow drizzling rain for three days prevented all field operations, although only .58 inch of rain fell. This brings the 1914 precipitation up to 5.035 inches. The average yearly precipitation of the four previous years, since this station was established, amounts to 2.63 inches.

Some time was spent in clearing arrowweed and second growth willow from raw lands B-33 to 45. B-33 was leveled. The last cutting of "time-of-cutting" alfalfa was harvested from E-series.

Sorghum stalks were hauled from D-6 to 10.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley.

Alfalfa Eradication Experiment.
-1914-

In 1913 an experiment in methods of eradicating alfalfa was started on 10 plats of alfalfa planted in 1912 between the tree rows in the orchard in field A. Following is an outline of the plan of the experiment.

Plat 1.- Plow 4 to 5 inches deep when third crop is about two inches high; float; replow 8 to 10 inches deep six weeks later.

Plat 2.- Plow 4 to 5 inches deep as in Plat 1; leave rough; replow 8 to 10 inches deep six weeks later.

Plat 3.- Plow 4 to 5 inches deep when third crop is ready to cut; float, replow 8 to 10 inches deep late in fall.

Plat 4.- Crown immediately after removing third crop; harrow; plow 8 to 10 inches deep late in fall.

Plat 5.- Crown immediately after removing third crop; Harrow; plow 8 to 10 inches deep in spring of 1914.

Plat 6.- Plow 4 to 5 inches deep immediately after removing third crop; float; replow 8 to 10 inches deep late in fall.

Plat 7.- Plow 4 to 5 inches deep late in fall after plants are dormant; leave rough; replow 8 to 10 inches deep in spring of 1914.

Plat 8.- Plow 4 to 5 inches deep early in spring of 1914 while plants are still dormant; replow 8 to 10 inches deep about 4 weeks later.

Plat 9.- Plow 4 to 5 inches deep in spring of 1914 after plants get green; harrow; replow 8 to 10 inches deep about three weeks later.

Plat 10.-Crown in spring of 1914 after plants get green; harrow; plow 8 to 10 inches deep about three weeks later.

In all cases the plan as outlined was followed excepting on plats 1 and 2, where it was impossible because of the ground being too wet as a result of heavy rains in September, to do the second plowing until November 8, three months after the first plowing. All plowing was done with a Deere high lift plow equipped with al-

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued).

falfa share. In all cases the depth of first plowing was 4 to 5 inches, and of the second plowing 8 inches. Crowning of plats 4 and 5 was done with a 20th Century Grader, equipped with a special 34 inch V-shaped blade built especially for grubbing sage. Plat 10 was crowned with the Deere plow. Depth of crowning was 2 to 3 inches. The grader did rather unsatisfactory work in crowning. This might be due in part to the fact that the machine was old and in rather bad condition, so that the blade did not run at a uniform depth at both sides. Four horses used on this machine, but more power would be required if the machine were used on a large field. The soil in the field is rather heavy. In crowning with a moldboard plow four horses do the work easily, and it is doubtful if the cutting width of the grader attachment is much greater than the plow, after allowing for enough lap on each furrow with the grader so as to be certain of not missing any of the alfalfa.

In preparation for planting corn, all of the plats were double disked, harrowed, and leveled uniformly immediately before planting on May 25, 1914. Corn was planted on all plats on May 27; variety, Northwestern Dent.

All of the corn plats were cultivated three times during the season and were howed twice. At each hoeing all of the visible alfalfa was cut off. Two irrigations were applied during the season.

Counts of the number of alfalfa plants per square rod on each plat were made before the first cultivation and again after the corn was harvested.

The following table gives data relating to the various treatments applied to the plats.

Plat No.	Date crowned	Date plowed		Height at crowning or first plowing	Harrowed	Floated	Number alfalfa plants per sq.rod, 1914	
		1st	2nd				6/22	11/2
1	.....	8/8/13	11/8/13	2 "	.....	8/8/13	2	..
2	.....	8/8/13	11/8/13	2 "	.....	....	5	2
3	.....	9/3/13	11/8/13	26 "	.....	9/3/13	25	10
4	9/11/13	.....	11/9/13	..	9/11/13	.....	18	12
5	9/11/13	.....	4/14/14	..	9/11/13	.....	28	20
6	.....	9/11/13	11/9/13	..	.....	9/11/13	15	10
7	.....	11/9/13	4/30/14	..	.....	.....	180	40
8	.....	4/14/14	5/27/14	..	4/14/14	.....	20	15
9	.....	4/21/14	5/27/14	3 "	4/21/14	.....	7	5
10	4/12/14	.....	5/27/14	3 "	4/21/14	.....	10	8

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued).

From this table it will be noted that at the end of the season the eradication of the alfalfa on plats 1 and 2 was practically complete, Comparing plat 1 with plat 3, where the only difference was in time of the first plowing, it appears that eradication is more difficult where the crop is plowed under at full height.

In the case of plats 4 and 5, there was a slight difference in favor of doing the second plowing in the fall rather than in the following spring. It appears also that to do the first crowning or plowing while the plants are still green is more effective than to do this while the plants are dormant. Plowing the first time to a depth of 4 to 5 inches appears to be better than crowning.

Yields of corn from the different plats are given in the following table:

Yield of corn on plats in orchard, Field A, following alfalfa on which different eradication treatments were applied.

Plat No.	Area, Acres	Yield per Acre. Stover, Lbs.	Grain, Bus.
1	.375	5333	66.8
2	.358	9080	67.6
3	.335	5972	70.5
4	.311	11357	66.5
5	.289	5545	63.5
6	.261	4098	57.4
7	.233	4815	57.9
8	.209	4522	60.5
9	.183	4835	63.7
10	.123	4225	54.5

Plat 3, on which the crop of alfalfa was plowed under in 1913, yielded per acre 13.1 bushels more than plat 6, which received similar treatment, excepting that the first plowing was done after the 3rd crop of alfalfa was removed. Compared with plat 4, which was crowned immediately after removing the third crop, plat 3 yielded 4 bushels more per acre.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued).

Comparing the average yield of plats that were fall plowed with that of the plats that were spring plowed, there is a difference of over 5 bushels per acre in favor of fall plowing.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

During the week ending December 19, one bad case of hog cholera was found in a herd of 222 hogs. When the disease was reported it was too far advanced to have good results from vaccination. About 75% of the entire herd was infected according to the number of high temperatures found. Of these, 37 were visibly sick and were not vaccinated.

In connection with the hog cholera work on the Project during the past season it has been found that the mortality from cholera is comparatively light with pregnant sows. In such cases, however, almost the entire pig crop is lost. In one herd treated for cholera there were 60 pregnant sows. None of the pregnant sows was vaccinated and still none died from cholera. Several of the sows lost their pigs and other pigs came prematurely. Only 75 pigs were raised from the 60 sows. Several similar cases have been found. As a rule, pregnant sows are vaccinated, great care being taken not to handle them roughly. In most cases the sows are saved but the pig crop is lost. It is estimated from observation here than about 4 open sows die from cholera to 1 pregnant sow.

One dairyman on the Project has recently installed an Empire milking machine. The machine was put in on trial. The dairyman was so well pleased with it that he bought it, and after using the machine for about two months thinks that he would not be without it again. At first the pulsators gave some trouble. Later it was found that too much lubricating oil was being used. Since that trouble has been remedied no fault has been found with the machine.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

When traveling around the Project a camera is usually carried, and pictures are taken of interesting subjects. Later, the best of these pictures will be used in making lantern slides for illustrated lectures.

Truckee-Carson.

A progress report has recently been submitted on a test being made in cooperation with a local farmer to determine the value of alfalfa hay when fed to dairy cows, both with grain and without grain. The experiment is being carried out in a herd of registered Jerseys. The cows are paying a remarkably good price for hay, even when they receive no other feed. The gross return per ton of alfalfa hay consumed by the cows when receiving no supplementary feed is averaging about $31.00, while the gross return per ton consumed by the cows when fed a supplementary ration of grain is averaging about $37.00. Up to date the cows have consumed somewhat less hay per day and per pound of butter fat produced when the hay has been supplemented by grain. Details of this experiment will be reported later.

Arrangements have been made for holding a Farmers' Meeting in the County Courthouse at Fallon on January 9. The meeting will be devoted to dairying, the chief topic being the selection of dairy cows. It is expected that a dairymen's association will be organized at the meeting.

CORRECTION.

Footnote (a) on page 234, of the Weekly Bulletin for December 19, 1914, should be corrected to read "In figuring the price paid for these feeds, $20 a ton was charged for the alfalfa hay fed to all three lots. When thus charged for hay, lot 1 still gave a net return of 94 cents a bushel for the corn consumed. When figuring the prices paid for beets, lots 2 and 3 were charged the same price for corn that lot 1 paid".

9 January, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

During the week ending December 26, the maximum temperature was 53, minimum temperature 28, precipitation .48 inch. There were four rainy days during the week and little field work was possible.

Samples of cotton from various rotations in the rotation experiments were ginned to determine the effect of the various treatments on the percent of lint, weight of seed, etc.

Plats B5-2, 4 and A6-2 were manured during the week. A part of two days was devoted to plowing AB8.

Prunigg of the orchard on A1 was partially completed.

Umatilla.

During the week ending December 26, the maximum temperature was 27, minimum temperature -4, and precipitation .04 inch (snow).

Truckee-Carson.

Time-of-Cutting Experiment of Alfalfa.

Plan of Experiment. For this experiment a portion of Plat A6 was chosen where the growth of alfalfa was apparently uniform. Twenty-one plats were marked off with galvanized iron bands 3 feet in diameter, in 7 series with 3 plats in each series. The series were numbered I to VII, and the plats in each series from 1 to 3.

Series I was out May 13, July 1 and August 19, and succeeding series one week later. Each cutting was weighed immediately after cutting and again after drying in the air until there was no further loss in weight. The drying required from 2 to 4 weeks. Notes were taken on the height of the plants, the percent of bloom, and the length of the basal shoots. Results of the individual cuttings were reported in Weekly Reports dated August 5, October 3 and October 17.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

Table 1. Summary of results obtained from first crop.
Figures given are averages of triplicate tests.

Series	Date cut	Length of growing period, Days	Height, cm.	% Blooms	Basal shoots cm.	Green weight, grams	Dry weight, grams	Loss weight, grams	% loss moisture
I	5/13	43	50	0	0	2090	439	1651	79.0
II	5/20	50	58	0	0	2013	478	1535	76.3
III	5/27	59	60	0	0	2061	479	1582	76.8
IV	6/3	64	67	5	1.5	2433	604	1839	75.6
V	6/10	71	69	33	6.5	2395	626	1768	73.9
VI	6/17	78	75	75	6.5	2412	642	1770	73.3
VII	6/24	85	75	100	8.0	2752	714	2038	74.1

Conclusions from results of first cutting. The height of the alfalfa, percent of blooms, length of basal shoots, and the dry weight increased with the age of the plants. There was also an increase in the green weight, but this increase was not uniform nor always consistent. The percentage of moisture in the green alfalfa decreased with the age of the plant.

Table 2. Summary of results obtained from second crop.
Figures given are averages from triplicate tests.

Series	Date cut	Growing period 1st. crop, Days	Height, cm.	% Blooms	Basal shoots, cm.	Green weight, grams	Dry weight, grams	Loss weight, grams	% loss moisture
I	7/1	43	72	5	3	2227	464	1763	79.2
II	7/8	50	77	10	3	2170	516	1654	76.3
III	7/15	59	72	50	3	1747	439	1308	74.8
IVV	7/22	64	76	66	4	1544	428	1116	72.3
V	7/31	71	72	50	4	1626	445	1181	72.6
VI	8/5	78	77	100	5	1956	520	1436	73.5
VII	8/12	85	65	100	6	1837	485	1352	73.7

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

Conclusions from results of second cutting. The second crop cut from each series was cut seven weeks from the date of first crop, so that any differences in the second crop should be due to the effect of the stage of maturity of the first crop at the time it was harvested, except that differences in climatic conditions might be expected to have some influence. The maturity of the first crop had no effect on the height or rate of growth (as indicated by the dry weight) of the following crop. Allowing the alfalfa to become more mature for the first crop seemed to have the effect of hastening the earliness of bloom and the growth of the basal shoots of the second crop. The percentage of moisture in the green alfalfa of the second crop decreased with the maturity of the alfalfa of the first crop.

Table 3. - Summary of results obtained from third cutting. Figures given are results from triplicate tests.

Series	Date cut	Height, cm.	% Blooms	Basal shoots, cm.	Green weight, grams	Dry weight, grams	Loss weight, grams	% loss moisture
I	8/19	58	25	3	1386	379	1007	72.6
II	8/26	61	66	3	1555	427	1128	72.6
III	9/2	61	75	3	1373	325	1049	76.5
IV	9/9	61	100	3	1392	344	1047	75.4
V	9/16	48	Frosted	3	735	227	508	69.2
VI	9/23	52	"	2	972	268	704	72.5
VII	9/30	53	"	3	608	173	435	71.5

Conclusions from the third crop. There were no consistent differences found in the height, length of basal shoots, yield, or moisture content of the alfalfa. The low yields of series V, VI, and VII were obviously due to the effect of severe frosts.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

Table 4.-Effect of crop maturity as indicated by length of basal shoots, and maturity as indicated by stage of bloom or percentage of moisture in alfalfa.

Classification	Number of samples	Loss in weight-percent. Highest	Lowest	Range	Average
First crop	21	81.2	71.1	10.1	75.6
Second crop	19	79.9	71.6	8.3	74.6
Third crop	21	78.7	67.1	11.6	72.9
Three crops	61	81.2	67.1	14.1	74.3
Length of Basal Shoots (centimeters)					
0	9	81.2	74.9	6.3	77.4
1-2.5	7	76.2	72.0	4.2	73.8
2.6-5.0	34	79.9	67.1	12.8	73.8
5.1-7.5	8	74.9	71.1	3.8	73.6
7.6-10.0	3	75.3	73.4	1.9	74.1
All samples	61	81.2	67.1	14.1	74.3
Flowering stage					
0 Bloom	9	81.2	76.2	5.0	77.3
1/20 "	5	79.9	74.3	5.6	76.8
1/10 "	3	76.9	76.4	.5	76.3
1/4-1/3 "	6	74.8	71.2	3.6	73.4
1/2 "	6	76.0	71.6	4.4	73.7
3/4-2/3 "	11	78.7	71.1	7.6	73.7
Full "	12	78.7	73.2	5.5	74.2
Frosted	9	73.2	67.1	6.1	71.1
All samples	61	81.2	67.1	14.1	74.3

Conclusions from Table 4. The first crop contained an average of 75.6% moisture, the second crop 74.6%, and the third crop 72.9%. Although there is a noticeable and consistent reduction here, the difference is within the limits of experimental error.

The portion of the table classifying the results according to the length of the basal shoots shows that the alfalfa contained a higher percentage of moisture before the basal shoots started growth. Possibly when new growth begins the flow of sap is partially diverted from the old stems, which then lose a portion of their moisture.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

Alfalfa carrying no blossoms or not more than 1/10 in bloom carried a higher percentage of moisture than alfalfa carrying a higher percentage of bloom.

Huntley.

Variety Test of Corn.

A test of corn varieties has been carried on during 1914 in field B-V. Seven varieties of Dent corn and five varieties of Flint corn were grown in the test. Seed of the Dent varieties was furnished by the Office of Corn Investigations and of the Flint varieties by the Montana State Station. Each variety was grown in triplicate. There were two rows to each plat. Rows were 44 inches apart and 170 feet long. Every other plat was a check planted to Northwestern Dent. The land on which the test was conducted was broken up from alfalfa in the fall of 1913, the alfalfa having been planted in 1911. Land preparation before seeding consisted of double disking, harrowing, and leveling. Planting was done on May 27. The seed was drilled thickly in rows and thinned later to an average distance of about 18 inches. Counts were made of the actual number of plants in each plat. All plats were cultivated four times during the season and were given two irrigations.

All varieties were matured before the first frost. The season was unusually favorable for corn since the date of the first killing frost in the fall was nearly three weeks later than usual. The average date of the first frost for three years from 1911 to 1913 was September 17, while in 1914 the first frost occurred on October 6.

At the time of harvesting, moisture determinations and shelling percentage determinations were made. For this purpose a twenty pound sample of corn was taken from each plat. The samples were hung up in a dry shed for about six weeks. The amount of moisture lost during this time ranged from 10 to 20 percent in the different samples. Yields and weight per bushel of ear corn were calculated on the basis of the weight of the dried samples.

Yields and other data are given in detail in the following tables, in which the average results are reported. In the case of Northwestern Dent, the figures represent the average results from 31 plats, while the figures relating to each of the other varieties are the averages of 3 plats.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued).

VARIETY	Date of maturity	Stand, plants per acre	Weight per bu. on cob.	Yield per acre. Corn, bushels, based on actual dry weights			Stover pounds	Total yield of grain and stover
				Highest	Lowest	Average		
Cassia Co. Flint	9/21	6071	68.6	65.0	53.1	58.6	4161	8186
Martins Dent	9/25	6369	70.6	66.2	54.0	58.2	4591	8708
Triumph Flint	9/21	5781	74.3	56.3	46.5	53.8	6370	10393
Selection # 133	9/28	5782	71.6	54.2	45.3	50.2	4928	8209
Northwestern Dent	9/15	5842	69.1	59.8	37.4	50.1	3720	7190
Brown Co.Yel.Dent	9/25	6637	66.6	54.9	39.2	48.1	3713	6919
Longfellow Flint	9/28	5945	69.6	46.0	41.5	44.3	2629	10717
Minnesota # 13	9/21	5466	69.6	44.6	37.4	40.5	2579	5582
Gehu Flint	9/5	5737	69.0	39.8	36.0	37.4	2471	5056
Minnesota # 23	9/10	5518	67.0	38.6	36.5	37.2	2387	4778
Ft. Peck Squaw	9/5	5289	69.0	38.6	23.0	28.4	2389	4346

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

During the week ending December 26 one farm was revisited where the farmer had made but little if any effort to dispose of the carcasses of hogs dead from cholera. Ten carcasses were found lying around the premises. The farmer was advised to dispose of the carcasses properly at once. If this is not done within a reasonably time his actions will be reported to the proper authorities. A nearby road overseer had his attention called to the fact that it was his duty to see that all dead hogs were properly disposed of.

For convenience in reporting the hog cholera work on the Project during the past months, the hogs treated are divided in groups as follows: pigs, those under 15 pounds; shoats, those under 125 pounds; older hogs, those over 125 pounds. From observation and from reports sent in from the farmers, it has been found that the

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

The table below shows the number of cars of hogs shipped out of the Valley since July 1, and net price received for same each month. This table shows that, as a rule, the greatest number of hogs were shipped when the price was the lowest.

Month	No. of cars	Average price per cwt. f.o.b. Valley points.
July	13	$8.45
August	14	8.50
September	27	8.30
October	28	6.80
November	25	6.90
December	28.5	6.60
T o t a l ..	135.5	

FURNITURE.

There is being sent to each of the field stations a Schedule of Filing Cabinets, Sectional Bookcases, Desks, Chairs, etc., as covered by the contract of the General Supply Committee for the fiscal year 1915.

This shcedule is to be used in ordering office furniture and equipment in accordance with a recent recommendation of the General Supply Committee that "where work is conducted in conjunction with the Washington offices which requires the use of cards, filing equipment, or other equipment which has been standardized, to use in the field service the sizes upon which the Government has standardized in the Washington offices."

The contract filing sections will not build in with Y&E or other makes, which will make it necessary to begin new stacks when additional sections are desired.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Truckee-Carson.

During the week ending December 26, the maximum temperature was 40, minimum temperature -2. The weather of the week was the coldest of the season.

Work on the tile drain in field H was continued.

During the week ending January 2, the maximum temperature was 47, minimum temperature 6.

Work on a shallow drain in field A was begun. This drain is not intended to be an under-drain but will be used to carry off the surface drainage from the orchard and garden. It will be made of redwood, and will be eight inches square inside.

Leveling of the land west of field B was resumed on the first.

Huntley.

A recent report from the local office of the Reclamation Service shows that 329 farmers on the Project own 4,612 hogs, and that 287 farmers own 789 dairy cows and 133 calves.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

A Review of Six Months' Demonstration Work on the North Platte Project.

The following statement, which calls attention to the more important features of the demonstration work conducted on the North Platte Project during the six months beginning July 1, 1914, has been prepared from monthly reports submitted by Mr. Jones. The work was actually started during the month of May, but Mr. Jones was not transferred to this office until July 1. During the months of May and June Mr. Jones' chief activities were devoted to getting acquainted with conditions on the Project;

DEMONSTRATION ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

to securing from the State Livestock Sanitary Board a hog cholera quarantine order, and to inaugurating his work in connection with hog cholera. This disease has caused so much difficulty during the past year that the major portion of Mr. Jones' time has necessarily been devoted to it. Up to July 1, Mr. Jones treated about 500 hogs for cholera.

Hog production is the most important livestock industry on the Project. On November 1, 1914, there were 516 farms on which hogs were kept, and there were at that time over 22,000 hogs on these farms. This is an increase of 57 percent over the number on the farms November 1, 1913.

The demonstration work is carried on in close cooperation with the University of Nebraska, the Office of Western Irrigation Agriculture, and the Nebraska State Livestock Sanitary Board. The serum used in combating hog cholera is prepared at the State serum plant at Lincoln, and is furnished to the farmers at cost--one cent per cubic centimeter, plus express charges. Wherever there has been an opportunity, Mr. Jones has worked with farmers in connection with feeding and breeding problems, the construction of hog houses, and other problems in hog management. Some work has also been inaugurated looking toward the organization of pig clubs. Considerable work is also being done in connection with treating hogs for worms, lice, canker sore mouth, and other minor difficulties.

In connection with herd improvement problems, Mr. Jones has visited several sections of the State in order to get in touch with breeders of purebred hogs, so as to be able to furnish information to farmers who wish to import purebred individuals for breeding purposes, and he also keeps a list of producers of purebred hogs on the Project.

A numerical record has been kept of the principal activities. This record does not show the full extent of the demonstration work but it does indicate the principal features of the work, and, in a general way, the quantity of work done on each feature.

A record has been kept of the shipment of hogs from the Valley. Most of these hogs are shipped to the Denver market. A record has also been kept of the number of purebred animals imported for breeding purposes. A summary of the important features of the demonstration work is given in the table on the following page.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

ITEM	July	Aug.	Sept.	Oct.	Nov.	Dec.	6 months
Herds visited	37	64	41	47	51	25	265
Herds treated for cholera.....	9	26	20	11	10	5	81
Hogs treated for cholera.....	790	1373	904	850	660	310	4,887
Treated hogs lost..	100	299	184	135	41	40	799
Percent of treated hogs lost.....	12.6	21.7	20.3	15.8	6.2	12.9	16.3
Cost of serum used.	$230	$652	$431	$551	$275	$200	$2339
Approximate saving.	$3461	$9360	$5524	$3035	$3662	$927	$25,969
Herds treated other than for cholera.	4	7	3	1	2	2	19
Hogs treated other than for cholera.	584	300	195	12	112	260	1463
Cars of hogs shipped from valley.....	13	14	27	28	25	28½	135½
Price per cwt. f.o.b. cars.....	$8.45	$8.50	$8.30	$6.80	$6.90	$6.60	$7.42
Total receipts from above shipments...	$19,773	$21,620	$40,338	$34.272	$31,050	$33,858	$180,911
Purebred hogs imported.....	6	2	8	10	10	6	42
Meetings.....	16	19	11	9	6	5	66
Lectures.....	16	19	12	9	6	4	66
Demonstrations at meetings.....	13	18	12	9	6	3	61
Total attendance at meetings.....	74	114	57	46	36	96	423
Distance traveled, miles.....	797	1098	1618	1817	1004	624	6958
Cost per mile of travel, cents	14.8	16.2	6.4	3.2	3.53	2.87	-----

The above table shows that during the six months' period 265 different herds of hogs were visited. A large number of these herds were re-visited several times. In addition to this, consultations were held with a number of farmers whose herds were not ac-

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

tually visited.

Cholera treatment was applied to 4,887 hogs in 81 herds, and, with the exception of a few instances early in the summer, the "serum alone" treatment was applied. Of the 4,887 hogs treated 799, or 16.3 percent, died after treatment. This loss was considerably larger than it would have been if the disease had in all cases been promptly reported. In many cases the disease was not reported until a large number of the hogs in the herd had become infected. The importance of promptness is indicated by the following figures: When the treatment was applied before 5 percent of the hogs in the herd were infected, the losses averaged 0.59 percent; when the infection was between 10 and 15 percent, the losses averaged 7.0 percent; infection 50 to 60 percent, losses 15.8 percent; and when the infection was between 80 and 90 percent the losses averaged 29.2 percent. In one locality, 812 hogs in 7 herds were treated,, and the losses amounted to only 22 head, or 2.7 percent.

One of the important features of the cholera work is to determine the saving which results from the application of the treatment. This matter is important because it emphasizes the fact that comparative freedom from the disease is purchasable; that is to say, if the hog growers will expend a comparatively small sum of money and apply the necessary effort, the expenditure of money and effort will purchase comparative freedom. This is a matter which is extremely important in all demonstration work, since it is applicable to a number of other things besides hog cholera. It applies equally well to the spraying of fruit trees for the prevention of insect and fungus damage, the dipping of cattle for the eradication of ticks, and numerous other analogous problems. Mr. Jones computes the savings as follows:

"From reports sent in by the farmers and from observation it has been found that when hog cholera breaks out in a herd and the herd is not vaccinated the following losses occur: Pigs weighing up to 15 pounds, 95 percent; shoats and gilts weighing from 15 to 125 pounds, 85 percent; older hogs, weighing more than 125 pounds, 25 percent."

By assuming that the above losses would have occurred if the herd had not been treated, and by considering the actual losses following treatment, the approximate saving can be calculated, due

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

consideration being given to the cost of serum. The above table shows that the serum used in treating 4,887 hogs cost $2,339, and that the approximate saving resulting from the treatment amounted to $25,969.

The table shows that 1,463 hogs in 19 herds were given some treatment other than that used in combating cholera. Most of these hogs were treated for worms, some were treated for lice, and a few for canker sore mouth. The total number of hogs treated for all purposes amounted to 6,350 head.

From July 1 to December 31, 135½ cars of hogs were shipped from the Valley, the average weight per car being 18,000 pounds. The average price varied from $6.60 per cwt. in December to $8.50 per cwt. in August. The total gross receipts varied from $19,773 in July to $40,338 in September, the total gross receipts for the six months being $180,911. This indicates that the hog industry on the Project has assumed very promising proportions. From present indications it seems reasonable to expect that the industry should develop to a point where approximately $1,000,000 worth of hogs can be sold annually.

The number of purebred hogs imported during the six months is not large. The bringing in of 42 head is not a reliable index of the interest that is being taken in herd improvement. A large number of excellent breeding animals are raised on the Project. The bringing in of additional breeding stock simply indicates that herd improvement is receiving considerable attention.

As shown in the above table, 66 meetings were held during the six months' period. These meetings were held in 10 towns. The attendance was not large, but it increased during the month of December, when the farmers were more able to attend meetings than they were earlier in the season. At these meetings 66 lectures were delivered and 61 demonstrations made by Mr. Jones. These lectures were, for the most part, devoted to questions relating to hog cholera control, but lectures were delivered on other subjects, including worms, feeding methods, canker sore mouth, hog lice, buildings, and breeding. The demonstrations were devoted almost entirely to the serum treatment for cholera, but there were some demonstrations devoted to treatment for worms, and some other difficulties.

The table shows that Mr. Jones traveled, during the six months, 6,958 miles, practically all of which was on the Project. It is interesting to note the figures showing the cost per mile of travel.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

During the first three months hired automobiles and livery rigs were used; during the last three months, Mr. Jones had the use of a Government automobile. Under the latter arrangement the traveling expenses were only about one-fourth as high as they were when hired conveyances were used.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

During the week ending January 9, the maximum temperature was 68, minimum temperature 31, and precipitation .26 inch.

Plowing of the rotation plats was completed on the 9th of January, and hauling of the manure to the various plats treated was also completed.

Pruning of the orchards on A1 and A3 was completed, and work started on D4.

A part of the week was devoted to cutting the brush and draining the upper surface water tank. It has been found that this tank does not hold water well enough to justify its existence.

The rose bushes in beds 206 and 207 on the grounds of the Experiment Farm were dug up and the beds filled with sand and stable manure. The roses were replanted.

A cement watering trough for the horse lot was made the latter part of the week.

Yuma.

During the week ending December 26, the maximum temperature was 66, minimum temperature 28, and greatest daily range 31. The precipitation amounted to .51 inch.

Cotton picking was finished on plats A-14$_2$ and A-7 and 8.

Sorghum stalks were mowed and hauled from A-1, 2; D-8, 9; sorghum stalks on A-24 were cut.

D-6, 7, 10, 38 and C-23 were plowed.

B-9 to 12 were disced and leveled, preparatory to seeding alfalfa.

Messrs. Blair and Ratliffe spent several days in the vicinity near Los Angeles and Imperial Valley.

During the week ending January 2, the maximum temperature was 68, minimum temperature 25, and greatest daily range 37.

During the week C-25, 26; D-8, 9; E-5, 6 were plowed.

Cotton picking was continued on A6; D-13 and 15. Al-

23 January, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued).

falfa was hauled from B-18, 19 and 20; D-17, and also from E-1 to 6; this was the final cutting of the "time-of-cutting"experiment.

B-9 to 12 were seeded to alfalfa and $A-15_{1}$ and 2 to vetch.
The deciduous orchard on B was cultivated.
Plats C-38 to 40 and D-39 to 42 were disced and harrowed.
Asparagus bed on $A-13_{8}$ was manured and disced.

Truckee-Carson.

During the week ending January 9, the maximum temperature was 48, minimum temperature 12, precipitation, .05 inch.

The tile drain in field "H" was completed on the 5th and during the remainder of the week work was continued on the drain in "A".

Grade snakes were set along the entire length of the large open drain ditch known as the "C" drain. As soon as it thaws sufficiently, this ditch will be cleaned and brought to grade.

Leveling the land west of "B" was continued through the week with one four-horse team.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Truckee-Carson.

The Churchill County Creamery received, during the month of December, 15,221 pounds of butter fat. The average price paid for the month was 30 cents, making a total of $4,556.30 paid to the patrons on the Project. The creamery company has recently entered the names of 300 farmers on the Truckee-Carson project, patrons and prospective patrons of the creamery, upon the subscription list of Kimball's Dairy Farmer, which is published at Waterloo, Iowa. The good that will result to the dairy industry of the Valley from this enterprizing move on the part of

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued).

the local creamery, can not be estimated.

Through the efforts of the Assistant General Passenger and Freight Agent of the Southern Pacific Railroad, there has been granted a freight rate on hay of $10.00 per ton, in carload lots to Kansas City and Omaha, and a rate of $11.50 per ton to St. Louis. These rates are now in effect. Local points on many railroads between Kansas City and St. Louis will also have the advantage of these rates. While the hay market at these places will not justify shipment, the prices are continuing to increase steadily. The demand in most cases is not well supplied.

At the time of the last cutting there were about 60,000 tons of alfalfa hay in the Valley with very little live stock to consume it.

If a market sufficiently good can be secured in the East, there will be a rapid movement of hay out of this project, which will be a great benefit to the farmers here. When the hay is being baled every effort will be made to have nothing but choice hay shipped out, so that a top price may be secured and a reputation made for the hay from this Project.

North Platte.

During the week ending January 9, a meeting was held with the Water Users' Asscciation at Scottsbluff, and a lecture was delivered on the "Relation of Irrigation Water to the Spread of Hog Cholera". The Association passed a ruling that in the future no hogs shall be allowed access to the irrigation laterals, and recommended that a similar ruling be passed by each of the irrigation companies in the Valley.

The following table shows the sources of infection resulting in 78 outbreaks of cholera in the Valley in 1914.

Source of infection.	No. of cases.	Percent.
Water.....	28	36.0
Dogs.....	8	10.0
Birds.....	8	10.0
Harbored infection.....	5	7.0
Contact with other hogs	9	11.4
Simultaneous treatment.	1	1.3
Visiting neighbors, exchanging labor, etc..	1	1.3
Unknown.....	18	23.0
	78	100.0

23 January, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

The importance of prompt treatment of hogs when cholera breaks out in a herd is emphasized by the figures in the table below, which shows the average percentages of hogs lost after treatment when the latter was applied to herds with the specified percentages of infection, on the North Platte Project in 1914.

Average infection, Percent	Average loss, Percent
0 to 5.....	.59
5 to 10.....	4.9
10 to 15.....	7.0
15 to 20.....	9.5
20 to 30.....	16.0
30 to 40.....	16.4
40 to 50.....	17.0
50 to 70.....	20.6
70 to 90.....	41.4
90 to 100.....	45.4

SUCCESS WITH MILKING MACHINE.

The following statement, which appeared in the "Kansas Farmer" for January 2, 1915, summarizes a Kansas farmer's three years' experience with a miling machine, and will therefore be of interest to the field men.

"Three years ago I installed a mechanical milker. I have two milking units. That is, I was then milking ten cows, but since have added the third unit and am now milking twenty cows. With the three units I can easily milk twenty-five cows an hour.

It requires one-horse power to operate the three machines and to milk three cows at the same time. I use electricity to operate a motor which runs the milking the machine. This is obtained from the City Light Plant and costs $2.50 a month. One

Success with Milking Machine (continued).

of my neighbors uses a gasoline engine of one-horse power to operate the same size rig that I have and he uses a gallon of gasoline in ten hours.

The three-unit rig such as I have can be installed exclusive of the gasoline engine at a cost of $175 to $225. The cost depends upon the arrangement of the barn, the kind of stanchion used, location of power, etc.

These machines are extremely simple, entirely noiseless, very durable, easily operated and cleaned, low in cost and upkeep and very efficient. The action of the machine is gentle, regular and steady, which is more than can be claimed for hand milking. It is no trouble to break the cows to machine milking.

The use of the machine does not in any way interfere with the keeping of a record of each cow's milk and without the machine losing any time. Each milking unit is operated independently of the other.

In the three years' use I have not had any cow injured by the machine, the amount of milk received has been increased and the cost of production has been materially lessened. I get a better quality of milk in so far as cleanliness is concerned and as a result the milk keeps better and commands a better price.

No other machine can be put on a dairy farm that will pay for itself as quickly in saving of time and labor as will the mechanical milker. I regard it as successful and satisfactory."

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending January 9, the maximum temperature was 72, minimum temperature 29, and greatest daily range 37.

Cotton picking was completed on D-11 and 12, and begun on A-6, 7 and 8.

Barley was seeded on D-35, 37, 40, 41 and 42.

Wheat was seeded on C-36 to 40, inclusive.

Alfalfa was seeded on D-19.

Alfalfa plats E-1 to 4, inclusive, were plowed.

Plat A-5 (corn plat) was harvested.

A-105, .151 acre plat of White Vineless sweet potatoes was dug, yielding at the rate of 15,145 pounds per acre.

During the week ending January 16, the maximum temperature was 70, minimum temperature 34, and greatest daily range 37.

One 4-horse team was engaged leveling B-34 to 45.

Cotton picking was finished on A-8, and continued on A-6 and 7.

Stalks were removed from A-8.

Plats A-8, 24, and C-6 and 7 were plowed.

Sand and gravel were hauled, to be used in making foundation for the new mess house.

Mr. Blair spent January 15 and 16 in Los Angeles.

Umatilla.

During the week ending January 2, the maximum temperature was 47, minimum temperature 21, precipitation .2 inch.

During the week ending January 9, the maximum temperature was 48, minimum temperature 18, and precipitation .07 inch.

During the week ending January 18, the maximum temperature was 48, minimum temperature 18, and precipitation .36 inch.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson.

During the week ending January 18, the maximum temperature was 57, minimum temperature 3.

The tile drain in field A was completed.

A short drain about 200 feet long was laid with 3-inch tile in a newly leveled check just west of the mess house. This drain is about four feet deep and empties into the C drain.

One four-horse team continued grading on the piece of land west of field B.

Following are the results of ten borings of soil from plat Y16, the figures being the averages obtained from the three borings.

	Total salts	Na_2CO_3	$NaHCO_3$	NaCl	Na_2SO_4
1st foot	.4274	.0000	.1249	.0161	.2555
2nd foot	.3410	.003	.1519	.0246	.2095
3rd foot	.2503	.0265	.1195	.0255	.1275
Three feet	.3286	.0100	.1350	.0217	.1975

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Minidoka.

During the week ending January 23, a series of special meetings were held at central points on the North Side. This series was devoted entirely to dairying. Mr. Johnson Field, Dairyman for the U. S. Dairy Division on the North and South Side Twin Falls Tract, attended the first afternoon, and Mr. Frevert, of the Western Office of the Dairy Division, attended the last three afternoons.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

The meetings were held as follows:

Heyburn-Afternoon of the 20th: attendance....33
Paul -Evening of the 20th: attendance.....16
Pioneer-Afternoon of the 21st: attendance....13
Acequia-Evening of the 21st: attendance.....34
Rupert-Afternoon of the 22nd: attendance.....42

As the school district was practically the unit for the meetings the attendance is considered good. The interest was exceptionally good, many of the audience remaining to discuss their individual problems after the meeting. At each place it was voted upon and decided unanimously to continue these local meetings during the winter season.

The next series of meetings will be devoted to swine growing.

The interest in dairying on the Project is good. At the present time, however, there is some dissatisfaction with the markets. An attempt has been made by the local dairymen to reorganize the local creamery which is lying idle.

At Acequia there has been an effort to organize a cooperative cheese factory. Mr. Frevert's discussions were devoted entirely to the problems of the cooperative creamery and cheese factory, and were of great benefit to the farmers. The situation will be looked into very closely before further action is taken.

Many of the farmers are somewhat discouraged at the prices which are similar to those elsewhere: grain, $2 per cwt.; alfalfa, a drug on the market, much for sale but no buyers; butter fat, 25 to 26¢, at different points; and hogs at 6.25.

6 February, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Truckee-Carson.

During the week ending January 23, the maximum temperature was 45, minimum temperature 0.

Work was begun in cleaning and repairing the irrigation ditches so that they will be in readiness for next season's water.

Leveling of the land west of field B was continued.

Scottsbluff.

THE SCOTTSBLUFF ROTATIONS.

The Crop Yields.

With the close of the third year of the Scottsbluff rotation work it is possible to draw some tentative conclusions from the results so far obtained. It is, of course, too soon to do more than analyze the results to determine whether any significant tendencies are indicated.

The soil on which these rotation experiments are conducted is a sandy loam, somewhat subject to blowing in the spring. The plats are one-quarter acre in size. The general situation and productivity may best be shown by giving the average yields of all the plats devoted to each crop in the rotations for the three years. The land was in prairie soil in 1910, and bore a crop of oats in 1911. The following table gives the number of plats devoted to each crop, and the average yield of each crop for the three

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued).

years, 1912-1914, inclusive.

TABLE I.- Mean yields from the Scottsbluff rotations.

	CROP						
	Oats	Wheat	Flax	Beets	Potatoes	Corn	Alfalfa
No. of plats	18	6	2	14	13	5	20
Year	(bus.)	(bus.)	(bus.)	(tons)	(bus.)	(bus.)	(tons)
1912	96.2	46.2	26.6	17.11	226.8	56.1	2.6
1913	82.9	29.9	16.8	19.02	314.6	67.4	4.2
1914	77.3	25.0	9.4	16.51	215.8	65.1	5.7

The alfalfa yields in 1912 were low because all the plats were seeded in the spring of that year.

In the following discussion it is proposed to consider mainly the yields of 1914, and to trace, if possible, the causes for the variations in yield.

OATS.

The mean yield from the 18 plats of oats was 77.3 bushels per acre. The largest yield was 95.4, and the smallest 51.1 bushels. There are 10 plats which yielded above the mean, and 8 yielded below. The 4 lowest yielding plats average 60.5 bushels per acre, and the 4 highest average 91.5 bushels, an increase of more than 50 percent. These 4 highest plats have had either alfalfa or a manured crop preceding the oats, while the 4 lowest have had neither. With but one exception, all of the 9 highest yielding plats have been preceded by a manured crop or by alfalfa, while of the 9 lowest only one has been preceded by alfalfa. In that case, a 1-year crop of alfalfa was followed by corn preceding the oats. It merits special notice that in these experiments corn preceding oats has not resulted in increased yields as is usually the case in dry land rotations, but, on the other hand, corn preceding oats has shown a decided depressive effect on the oats.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued).

BEETS.

The mean yield from the 14 plats of beets was 16.51 tons per acre. The highest yield was 21.17 tons, and the lowest 13.35 tons. There are 7 plats with yields above the mean and 7 below. The 3 lowest yielding plats average 13.83 tons per acre, and the 3 highest yielding plats average 20.57 tons, an increase of about 50 percent. These 3 highest yielding crops were preceded by alfalfa or manure, while the 3 lowest plats had neither. In fact, the 6 highest yielding plats include all the plats which have had either alfalfa or manure. The lowest yielding plat was the one in which beets have been grown continuously and the next 2 low plats have had potatoes and oats and beets and oats preceding the recent beet crop.

There can be no question that these results show a significant benefit from the use of manure and of alfalfa on the Scottsbluff land.

POTATOES.

The mean yield from the 13 plats of potatoes was 215.8 bushels per acre. The highest yield was 319.3 bushels per acre, and the lowest was 119.2 bushels. There were 7 plats with yields above the mean, one on the mean, and 5 below. The three lowest yielding plats averaged 131 bushels per acre and the 3 highest averaged 300 bushels, an increase of 130 percent. If we arrange the plats in the order of their yields from the highest to the lowest we find that the first 4 were preceded by 2 years of alfalfa, the fifth by 2 applications of manure, and the sixth and seventh by one application of manure, while the remaining 7 had neither alfalfa or manure. The lowest yield was from the plat used for potatoes continuously. Potatoes and beets are the two important cash crops of the North Platte Project. In these experiments both crops show uniform and consistent response to the use of alfalfa and manure.

6 February, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued).

WHEAT.

The mean yield from the 6 plats of wheat was 25.0 per acre. The highest yield was 30.0 bushels, and the lowest, 18.8 bushels. There were 3 plats with yields above the mean and 3 below. One of these plats, the lowest in yield, was of winter wheat, while the others were spring wheat; if the winter wheat plat be eliminated as not comparable, the next low plat yielded 22.7 bushels as compared with 30 bushels for the best plat. The best yield was from a plat which had been in alfalfa 2 years, the next best, yielding 28 bushels per acre, had been in wheat followed by beets, while the others had been in wheat continuously in two cases, and in wheat and oats in one case. Here again alfalfa shows a marked stimulation in yield of the following crop.

CORN.

The mean yield from the 5 plats of corn was 65.0 bushels per acre. The highest yield was 78 bushels, and the lowest, 41.4 bushels. There were 3 plats with yields above the mean and 2 below. The best yield, 78 bushels per acre, was from a plat following 2 years of alfalfa; the lowest yielded 41.4 bushels, and had been devoted to corn continuously. None of the plats had been manured, and only the one had been in alfalfa.

FLAX.

There were but 2 plats used for flax. One of these, flax continuously, yielded 7.5 bushels per acre, and the other, on which flax followed alfalfa and corn, yielded 11.4 bushels.

ALFALFA.

The mean yield of the 20 plats of alfalfa was 5.7 tons per acre. Of these 20 plats 15 yielded above the mean and only 5 below. These 5 low plats were all planted in the spring of 1914, and are not comparable

6 February, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued).

with the others. There were also 3 plats which were planted after oats in the fall of 1913, which were really first year plats but not comparable with the others. The remaining 12 plats had been in alfalfa either one or two full seasons preceding the crop of 1914. The average yield of these 12 plats was 6.78 tons per acre, with the highest 7.21, and the lowest, 6.22 tons. Of the 3 plats planted in the fall of 1913, the average yield was 5.83 tons per acre, the three yields being as follows: 5.99, 5.80, and 5.77 tons. Of the 5 spring planted plats the average yield was 3 tons per acre, the highest being 3.20, and the lowest 2.86 tons.

There has not yet been time for any of the rotation effects to find expression in the alfalfa yields. The most significant features of these yields are: (1) the high degree of uniformity among the comparable plats, (2) the marked gain in the yield the first year resulting from fall planting, as compared with spring planting, a gain of nearly 3 tons per acre. In other words, the fall planting by drilling the seed into the oats stubble in late August results in yields the next season which are but little below the average yields from well established stands.

The following table brings out the most significant rotation effects in the three important annual crops in the rotation experiment. The plats are arranged in the order of their yields from the highest to the lowest. The preceding crops are indicated by the initial letters.

O - Oats	W - Wheat	C - Corn
A - Alfalfa	B - Beets	P - Potatoes
	F - Flax	

MB indicates manure applied to the beet crop.
OR indicates oats followed by rye, to be plowed under the following spring.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued).

TABLE II. Crop Yields and Preceding Crops, Scottsbluff Rotations, 1914.

OATS			BEETS			POTATOES		
Preceding Crops		Yield	Preceding Crops		Yield	Preceding Crops		Yield
		(bus.)			(tons)			(bus.)
A	A	95.4	A	P	21.17	A	A	319.3
A	P	94.9	A	O	20.67	A	A	299.4
O	MB	89.4	MB	OM-	19.87	A	A	280.0
MB	P	86.4	P	OM-	18.49	A	A	272.2
OR	P	84.6	P	OM-	17.44	MP	OM-	253.5
A	P	83.7	MB	PM-	17.24	O	MB	243.3
O	MB	83.6	B	W	16.57	P	MB	236.9
A	W	83.4	P	O	14.78	O	B	216.0
A	P	82.6	C	O	14.62	P	O	146.2
B	P	78.8	B	P	14.50	P	B	146.0
O	B	75.8	C	O	14.33	P	C	142.5
O	O	71.9	B	O	14.20	P	OR	131.1
A	C	69.8	P	O	13.94	P	P	119.2
O	P	69.4	B	B	13.35			
C	P	69.0						
O	W	65.2						
O	C	56.6						
B	C	51.1						

C. S. S.

Yuma.

During the week ending January 23, the maximum temperature was 71, minimum temperature 27.5, precipitation .51 inch.

Leveling was continued on B-34 to 45.

Picking of cotton plats A-6 and 7 was completed.

A-8 was manured and put in condition for early melons.

Stalks were cut on A-5 to 7.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued).

A car containing lumber for the mess house and material for posts and irrigation boxes was unloaded during the week.

Thirty-five acres were irrigated.

Professor Morse, of the University of Arizona, visited the Station on the 18th of January.

Mr. Blair left the station on the 21st for Washington, D. C.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Minidoka.

Owing largely to the special Dairy Meetings recently held on the Project, a number of men interested along this line requested that their places be gone over carefully and that suggestions be made regarding improvements in the way of feeding, records, barn arrangement, and methods of breeding. A part of these were visited during the week ending January 30.

A call was received from Marshfield stating that cholera had again broken out, this time in the herd of Mr. C. R. Simplot. As a number of the farmers in this district have taken great pains to become posted on the symptoms of cholera they were very positive that this was the trouble. Mr. Simplot was away (in California) at this time, and his hogs were left in the care of his family. They thought that the trouble was pneumonia and did not report until several had died and some of the neighbors with experience with cholera were called in and found the herd badly infected. The Twin Falls office was communicated with, and Dr. Henderson came up from Twin Falls. An effort was made to join him at Simplot's farm but the bridge across the Snake River was washed away early in January since which time the teams have been crossing on the ice. It was thawingto such an extent on this date, however, that it was deemed unsafe and the trip abandoned, and Dr.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

Henderson vaccinated the herd alone. The infection was quite bad.

This is the first case since December 6th, when two outbreaks occurred. As Mr. Simplot's place is over two miles from any former infection, it is impossible to trace the manner in which the disease was carried. Recently in the hog lot was found part of the carcass of a hog. As none had been lost at this time, this had been carried here presumably by a very large dog, although the family and the neighbors think that it was part of a cholera hog brought into the hog lot by an enemy.

Mr. Simplot's hogs were mostly grades although recently he had bought a small registered herd - five in number - of the Large English Blacks (now called the Large American Blacks). Of these four died. Six of the grades have died.

Huntley.

Request has been made for the appointment of Mr. Carl Christopher, of Illinois, who is expected to begin work on the Huntley Project on March 1. The dairy and swine industries are developing rapidly on the Project, there being at present 800 dairy cattle and 5,000 hogs on the 550 farm units on the Project. Mr. Christopher's activities will be directed chiefly towards the establishment of these two industries,

Boise.

It is expected that work will be started on the Boise, Idaho, Project on March 15. Request has been made for the appointment of Mr. Harry A. Ireland, of Idaho, who will be stationed at Boise.

The work on the Boise Project will be centered around the establishment of livestock industries, particularly, dairying and swine production.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Yuma.

Arrangements have recently been made with the office of Western Irrigation Agriculture whereby Mr. Blair will conduct some demonstration work in 1915 in connection with the cotton and alfalfa seed industries on the Yuma Project.

In 1914, Mr. Blair secured some excellent results in cooperation with farmers relative to community production and marketing of Durango cotton. It is planned to extend this work considerably during the present year. It is also planned for Mr. Blair to place before the farmers on the Project some results recently secured at the Yuma Experiment Farm relative to the production of alfalfa seed, and to assist in community handling, grading and marketing of their crop.

The work with cotton and alfalfa seed will be financed by this office and the office of Western Irrigation Agriculture, Mr. Blair devoting part of his time to the demonstration work, and the remainder to the investigational work at the Experiment Farm.

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WESTERN IRRIGATION AGRICULTURE.

Scottsbluff.

The "Nebraska Farmer", of February 3, contains an article by Mr. Knorr, entitled "When to Irrigate Crops". The article discusses chiefly the irrigation of corn, potatoes, small grains and alfalfa.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Minidoka.

During the week ending February 6 cholera again broke out in the South Side, this time at the farm of Arthur Muir, in School District No. 31. This place is about six miles from any former infection. The method of infection is not known positively. However, a few weeks ago, Mr. Muir discovered the bodies of several dead shotes lying by the trail in the sage brush. Shortly afterwards his dog carried a part of one of these home. In the opinion of Mr. Muir and Dr. Henderson these hogs had died of cholera on some farm where the disease was not reported, and had been hauled here and thrown out by the owner. The bodies still remain, but of course it is impossible to make a diagnosis. As it is a violation of the State law to leave the bodies of dead animals exposed, Mr. Muir has asked the State authorities to try to discover the one who threw out the hogs. As Mr. Muir was suspicious and reported the conditions as soon as the hogs appeared sick, his loss will be very light.

On February 1, Mr. H. C. Bateham was assisted in buying a foundation herd of hogs. Five Duroc sows, all practically pure bred, one being eligible to registry, and all very good individuals, were purchased for $6\frac{1}{2}$ ¢ per pound. The lot averaged 170 pounds each. All will farrow in April.

The price of hogs has dropped to 6¢. The price of grain is still high. Many hogs are being wintered on alfalfa hay alone. Large numbers are being sold on the market each week. Few of these are finished, however, the majority of them weighing from 125 to 175 pounds.

Recently two articles of interest to local farmers were prepared for publication in all the newspapers on the Project. The first discussed Farmers' Clubs, and the second, which

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

was published during the week of February 1, dealt with the subject of Cooperative Creameries.

The weather during the week was very disagreeable, with heavy rains on the first and second, snow on the third, and cold winds on the fourth and sixth.

The second series of meetings will be held at central points on the Project during the week beginning February 8. This series will deal with the problems of swine growing.

North Platte.

Mr. Jones has recently fitted up an office in the Peirson building at Mitchell, where he is arranging to maintain a small library of agricultural books and periodicals, for the use of visiting farmers and himself. The library includes a few of the leading livestock journals, bulletins from various experiment stations, and a few books on livestock subjects.

Arrangements have been made with the Agricultural Enginnering Department of the University of Nebraska for cooperation in hog-house demonstration work on the Project. That Department has furnished some slides, illustrating various types of hog houses, which will be used in a series of farmers' meetings to be held on the Project this month.

The meetings to be held this month will be devoted to discussions of questions relating to swine production, dairying and crop production. These subjects will be discussed by Mr. Jones, Professor Frandsen, of the University of Nebraska, and Mr. Knorr.

At the time of his recent visit to Lincoln, Mr. Jones made arrangements with the State Serum Plant whereby serum will be furnished for the North Platte Project in 1915 as in 1914. No cholera outbreaks have been reported during the past three weeks.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson.

Supplementing Alfalfa Hay with Grain.

The following is a summary of the results secured in a test recently conducted with four registered Jersey cows belonging to Mr. F. E. Mobley, for the purpose of obtaining information relative to the advisability of supplementing alfalfa hay with a small ration of grain.

Four cows were used in the test. At the beginning of the test, one cow had been fresh ten weeks, two had been fresh 30 days, and the fourth had been fresh a little more than six months. All the hay and grain fed to each cow was carefully weighed. The grain ration consisted of equal parts of rolled barley and bran. The hay was alfalfa of only fair quality.

In the beginning, two of the cows were fed hay alone,- all they would eat- and the other two were fed all the hay they would eat and four pounds each of the grain ration daily. This was continued for two weeks, when the feeding was reversed, a one week preliminary period intervening. Then, at the end of two weeks, the feeding was changed back again, with another one week preliminary period, and continued for two weeks. Thus, during the entire period of the test, each cow had hay alone for a total of 28 days, and hay and grain for a total of 28 days, both exclusive of the preliminary periods.

In the calculation of the results, skim milk was valued at 25 cents a hundred pounds, butterfat at the current price of 32 cents a pound, grain at $30 a ton, and alfalfa at $5.00 a ton, which was slightly above the current market price. No account was kept of the labor cost or of the value of the manure. The short period offered no opportunity to determine the effect, on the cows' health, of feeding alfalfa hay alone. The milk produced was weighed each day and tested. The results of the test are summarized in the table on the following page.

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Field Notes.

Truckee-Carson (continued).

ITEM	HAY ALONE	HAY & GRAIN
Number of cows	4	4
Number of days considered	28	28
Pounds of hay fed	3514	2864
Cost of hay @ $5 per ton	$8.77	$7.15
Pounds of grain fed	None	448
Cost of grain @ $30 per ton	None	$6.72
Total cost of feed	$8.77	$13.87
Pounds of butter fat produced	146.20	156.20
Value of butter fat @ 32¢ per pound	$46.76	$50.00
Pounds of skim milk produced	2934.20	3064.00
Value of skim milk @ 25¢ cwt.	$7.32	$7.65
Total value of products	$54.08	$57.65
Value or products less cost of feed	$45.31	$43.78
Feed cost per lb. butter fat	$.0597	$.0890
Feed cost per lb. butter fat less value of skim milk	$.0122	$.0385
Gross return per ton of hay, after cost of grain is deducted	$31.00	$37.20
Pounds of hay required to produce one pound butter fat	23.95	17.90

The most striking thing shown in the above summary is the high price paid by these cows for alfalfa hay. At the time the test was made the local market price for alfalfa was $4.50 per ton, while these cows paid approximately seven times this much. It should be remembered, however, that these cows are purebred, and above the average in production.

There was but a slight difference in the production or in the value of products less cost of feed, when the cows were fed hay alone and when grain was added.

The cows consumed considerably less hay per day

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued).

and per pound of butter fat when they were fed grain.

The cost per pound of butter fat was considerably higher when grain was fed.

If it is a question of selling hay for the greatest returns per ton, the results indicate the advisability of feeding grain, but if it is desired to secure the greatest profit per month of the cow's time, the results slightly favor the feeding of hay alone.

If maximum profit per acre is desired, then it appears advisable to increase the number of cows carried on the farm, and feed grain, thus making the farm carry more cows with a greater profit per acre.

The duration of this test was too short to warrant the placing of much confidence in the results, except as they relate to the high price paid by the cows for alfalfa hay, and perhaps the decreased quantity of hay consumed when grain was fed. The test has been somewhat extended and now includes some grade cows, so that additional information is being secured. The results will be reported at the proper time.

One of the chief difficulties encountered by the farmers on the Truckee-Carson Project in connection with the successful establishment of the dairy and swine industries relates to the production of feeds to use to supplement alfalfa. There is need for demonstration work in the production of grains, silage, and stock beets. In order that this work may be done, arrangements have been made with the Office of Western Irrigation Agriculture whereby Mr. Headley will work with Mr. Cline, during the present year, in conducting cooperative work with farmers in these crop production problems. The work will be financed by this office, Mr. Headley dividing his time between this work and his regular investigational work at the Experiment Farm. Tentative arrangements already have been made with several farmers for making field tests with several supplementary feed crops.

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TABLES FOR CONVERTING SOIL MOISTURE PERCENTAGES TO EQUIVALENTS IN ACRE-INCHES.

By using a formula suggested to him by Mr. J. O. Belz, Mr. Dean has prepared some very useful conversion tables for use in connection with soil moisture determinations. In these determinations the soil moisture is usually expressed as a percentage, based on the weight of the dry soil, but it frequently is desirable to know the equivalent in acre-inches. The tables prepared by Mr. Dean can be used in making conversions from percent to acre-inches of soil moisture in any soils of which the weight per cubic foot lies between 70 and 94 pounds. There is a separate table for soils weighing respectively 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92 and 94 pounds per cubic foot,- 13 tables in all. The tables show directly the acre-inch equivalent of any soil moisture percentage between 0.1 percent and 20.0 percent.

Copies of any of these tables will be sent to any field man requesting them. In making the request the field man should state which table or tables he desires, specifying the weight per cubic foot of the soil in connection with which each table is to be used.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending February 6, the maximum temperature was 72, minimum temperature, 34, and greatest daily range, 34.

Roads 1, 2, 3, 9 and 10 were disced, harrowed, and seeded to Chilian alfalfa.

Plats A-10_2 and 14_2 were manured and A-5, 6 and 7 were plowed.

Cotton stalks on D-13 and 15 were cut. D-39 was seeded to barley. Field stakes from fallow plats were gathered. Leveling on B field is being continued.

Work on the mess house started the first of the week. One carpenter, will all available farm help, is being employed in this work.

Truckee-Carson.

During the week ending January 30, the maximum temperature was 55, minimum temperature, 9, and precipitation .04 inch.

The work of leveling the new piece of land west of field B was continued through the week with one 4-horse team.

Two men continued with the work of cleaning and repairing the irrigation ditches.

During the week ending February 6, the maximum temperature was 59, minimum temperature, 13; precipitation, .04 inch.

Work was continued on the irrigation ditches by one man.

The team was kept busy on the leveling of field B.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

During the week ending February 13, one pure bred Poland China hog sale was held near Mitchell. The offerings consisted of bred sows, last spring's males, and some July gilts. The hogs were of fair quality. Some were rather light in bone, and some were undersize for their age. The sale was topped by a 2-year old bred sow that sold for $45. There did not seem to be a very good demand for Poland Chinas.

A pure bred Duroc Jersey sale will be held at Mitchell during the last week in February. The offerings will be largely bred gilts of good quality.

Mr. D. I. Roland, of Minatare, topped the Denver market on the 9th with a car of Duroc Jersey hogs which sold for $6.80. This was 10¢ above the Omaha market tops. These hogs were raised and fattened by Mr. Roland. A self-feeder was used during the fattening period.

Arrangements have just been made with the alfalfa mill at Mitchell and the Experiment Station at Lincoln for the testing of a number of alfalfa samples. This test is for the purpose of determining the protein content of the alfalfa grown on the Project. A composite sample of alfalfa will be used in making the test. This sample will be made up of samples taken from the ground alfalfa at the mill for a number of days.

It is claimed by some that the protein content of the alfalfa grown on the Project is not as high as the protein content of eastern Nebraska or Kansas alfalfa.

So far, only one outbreak of cholera has occurred during the month. Another very gratifying fact is that no cholera outbreaks have so far occurred on farms where the disease occurred in 1913.

The price of State serum has just been raised from 1¢ per c.c. to 1-1/4¢ per c.c. A supply of serum will be kept on hand at Mitchell during the coming months to be used as needed.

From figures recently furnished by a local shipper of hogs, it was found that it costs about 60¢ per cwt. to ship hogs from the Valley to the Denver market. These charges

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

include 23¢ for freight, 19¢ for selling commissions, Inspcetor's fee, and feed in Denver and about 18¢ for shrinkage, allowing 500 pounds shrinkage for each car.

Under date of February 11, Mr. Jones mailed to the farmers a circular letter announcing a series of meetings to be held on the Project during the week of February 22. These meetings will be held at Morrill, Shamrock School House (Sunflower District), Pleasant Valley Church (Pleasant Valley District), Hope School House, Scottsbluff and Fairview Church (Dutch Flats District).

The speakers will be Professor Frandsen, of the Dairy Department of the State University, Miss Pier, of the University Home Eccnomics Department, Mr. Knorr, and Mr. Jones. A special hog cholera meeting will be held at Scottsbluff on the 27th, at which Dr. C. M. Day, State Field Veterinarian, will be the principal speaker.

Minidoka.

Some very satisfactory results of the first series of meetings, which were held on the Project in January, are already apparent. The nature of the demonstration work was fully explained at each of these meetings. As a result, sixty-two farmers have already requested Mr. Rinehart to visit their farms.

A newspaper article was recently prepared and published in the local papers on the subject of the breeds of hogs to be used on the Project. The census taken in 1914 showed that there were on the Project more than 27,000 hogs. This number included pure bred Duroc Jerseys, Chester Whites, Poland Chinas, Berkshires, Tamworths, Hampshires, and Large English Blacks, and a large number of grades and cross breds of various combinations.

One of the important improvements needed on the Project is a standardization of breeds in the different commun-

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

ities. This matter is being emphasized in the demonstration work.

Truckee-Carson.

Mr. Cline has recently prepared and distributed among the farmers on the Project two circular letters, one on the subject of lice on hogs, and the other on the subject of worms in hogs. Worms and lice, particularly the latter, have been the source of much loss to swine growers on the Project during recent years, and a large number of inquiries have been received regarding these two pests.

COOPERATIVE CREAMERIES IN MINNESOTA.

It is stated in Minnesota Bulletin #146 that there were 614 cooperative creameries in operation in Minnesota in 1913; that these constituted 72 percent of the creameries in the State, and that they were patronized by 42 percent of the farmers of the State. Additional figures relating to these 614 creameries in 1913 are given as follows:

Pounds of butter produced.....	74,934,940
Pounds of butter per creamery.....	122,044
Paid to farmers for butter fat.....	$19,988,321
Paid to farmers per creamery.....	$32,554
Total running expenses.....	$1,682,931
Expense per pound of butter.....	$0.022
Total number of patrons.....	65,181
Patrons per creamery.....	106
Total number of cows belonging to patrons.....	504,975
Number of cows per creamery.....	822

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HOG CHOLERA RESULTS IN GAGE COUNTY, NEBRASKA.

The "Nebraska Farmer", of February 10, 1915, contains an article in which are reported the results secured in 1914 by the County Agriculturist of Gage County, Nebraska, in connection with hog cholera. It is not stated whether the "serum alone" or the "simultaneous" treatment was used, the treatment being called simply "vaccination". The results are tabulated below:

Condition of hogs at time of treatment.	Number treated	Number lost	Percent lost
Exposed but not affected.....	3271	12	0.39
High fever.....	2084	185	8.87
Visibly sick.....	729	490	68.59
	6084	687	11.29
Advanced stage of disease.....	Not treated 392	370	94.47

The article states "These figures show: That hogs exposed to cholera, but vaccinated in time, can be saved; That 90 percent of hogs just taking the cholera can be saved; That 30 percent of hogs sick with cholera can be saved; 94.47 percent of hogs with cholera, and not vaccinated, die of the disease.

AUTOMOBILE REPORTS.

Field employes having the use of government-owned motor vehicles are requested to send in their monthly reports after the close of the month. The Secretary's Office is insistent upon the Bureau report being filed promptly, and the Bureau Property Clerk complains that his report is frequently held up by the non-receipt of data from this office.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

During the week ending February 13, the maximum temperature was 79, minimum temperature 29, and greatest daily range 43. Clear weather prevailed throughout the week, the total precipitation being .03 inch.

Plowing of field A3 was completed. This field was also double disked in order to break the clods.

Considerable time was consumed in connecting the newly constructed septic tank, and in work on the water and sewer systems. A large number of the farm tools were painted.

The greater part of the material in the part of the nursery west of the greenhouse has been moved, and the ground plowed preparatory to planting a grass crop. This was made necessary because of root rot which has caused considerable trouble.

Umatilla.

During the week ending January 30, the maximum temperature was 32, minimum temperature 18, and greatest daily range 14.

Work was continued in graveling the road through the Farm.

The following is a comparative weather report for the month of January at the Umatilla Experiment Farm for the four years, 1912 to 1915.

Year.....	1915	1914	1913	1912
Maximum temperature, Degrees F.	48	63	54	51
Minimum temperature, Degress F.	18	21	0	-18
Mean temperature, Degrees F.	29.8	38.8	30.2	29.63
Precipitation, inches.....	0.53	1.82	1.69	2.22
Average Wind velocity, miles per hour.....	1.44	3.87	3.10	2.60
Days clear.....	3	11	7	3
Days partly cloudy.....	9	15	11	10
Days cloudy.....	19	5	13	18

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued).

During the week ending February 6, the maximum temperature was 51, minimum temperature 26, greatest daily range 20. The precipitation during the week was .54 inch.

Yuma.

During the week ending February 13, the maximum temperature was 75, minimum temperature 34, and greatest daily range 36. The precipitation amounted to .49 inch.

Plats A-14_{2-7}-15_7-D-11-12-13 and 15 were plowed.

Roads 6, 7 and 8 were seeded to alfalfa.

A-16 to 21, date lands, were cultivated.

Clearing and leveling was continued on B.

The mess house frame work has been constructed, and the building almost completely shingled.

A-15_6, grapes, and C-18, pomegranates, were pruned.

A-10_2 was manured. Cannas were planted on A-14_2.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Huntley.

Under date of February 25, a four-page circular letter on the subject of pastures was mailed from the Washington office to the farmers on the Huntley Project. The letter is based on results secured at the Huntley Experiment Farm during the past two years.

Mr. Carl Christopher will reach Huntley February 28, and begin work March 1. His work will be centered around the dairying and swine industries.

On March 4, 5 and 6, a conference on operation and maintenance will be held at Billings under the direction of Mr.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley (continued).

I. D. O'Donnel, Supervisor of Irrigation for the Reclamation Service.

Boise.

As announced in the Weekly Bulletin for February 6, Mr. Harry A. Ireland, will begin demonstration work on the Boise Project March 16. The headquarters will be at Caldwell, instead of at Boise, as was previously announced. This change was made at the request of the Boise Project Water Users' Association and the Canyon County Farmers' Association, in consideration of the fact that Caldwell is readily accessible to more farmers than Boise is.

Truckee-Carson.

The Churchill County Creamery received during the month of January 15,703 pounds of butter fat. The average price paid for the month was 28¢, making a total of $4,396.84. The output of butter fat on the Project is constantly increasing. The output for November was 13,991; for December 15,221; for January 15,703. The new creamery nearing completion, which belongs to the Churchill County Creamery Company, will be one of the most up-to-date creameries in the western states.

Facilities for making ice cream and cheese as well as butter is provided for in the new plant. The total cost of the plant is said to be about $15,000. While the capacity is much greater than the present output, it is expected that there will be a rapid increase in the size of the dairy industry here, and that the capacity will soon be needed. The farmers' inclination toward the dairy business is very marked, and as fast as good dairy animals can be imported to the Project they find a ready welcome.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.

As one of the main problems of the Project is the marketing of dairy products, it has been decided to hold a number of meetings at central points. Mr. Frevert, who has charge of the cooperative investigation work of the Northwest for the U. S. Dairy Division, will attend these meetings.

During the week ending January 16, the successful cooperative creameries of the Boise Valley were visited, and their results studied. The Nampa Cooperative Creamery promised to send their president to attend the meetings at their own expense. The offer was accepted. This creamery was organized in 1912 by the field man of the U. S. Department and the Extension Department. It was the first to be successful.

Consultations were held in Boise with leading dairymen and swine growers. It was decided that all should cooperate to improve conditions in the state.

As the administration of the State has changed, and practically every quarantine regulation of the State was by the Govenor's proclamation, Idaho is now unprotected. An effort is being made by those most interested to regulare the importation of cattle. At the present time tuberculosis and contagious abortion are continually being introduced. The region included in the Minidoka Project of the Government Hog Control Work is also unprotected from infection from the outside.

As one of the meat packing houses of the Northwest has offered a number of pigs to the Boys' Pig Club work, an effort is being made to secure the entire number for the Minidoka Project. Mr. Potter, the State Club Supervisor, and Prof. Center, the Extension Director, both favor putting all of these (approximately fifty) where they will result in the greatest good. As in connection with the other work, a considerable amount of time will be given to the Club Work on the Project; both Mr. Potter and Prof. Center have recommended that all the pigs be given to the

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

boys on this Project. The Agriculturist in charge will assist in the organization and selection of the boys.

The second of the series of meetings being held on the Project was held during the week ending February 13. This series was devoted entirely to the problems of swine growing. Dr. W. A. Sullivan, Inspector in charge of the Hog Cholera Control Investigations, U. S. Department of Agriculture, for this section, attended all the meetings, and discussed "The Prevention and Control of Hog Cholera". Mr. Rinehart's subject was "Raising a 200-pound Hog".

The meetings were held as follows:

		Attendance
Paul.....	Tuesday evening.....	32
Heyburn.....	Wednesday afternoon.....	9
Pioneer....	Wednesday evening.....	30
Acequia....	Thursday evening.....	13
Burley.....	Friday afternoon.....	67
Springdale.	Friday evening.....	36
Marshfield.	Saturday afternoon.....	58
Rupert..... (high school)	Thursday afternoon.....	--

Each meeting was planned for two hours, each lecture to be for 40 minutes, with the remainder of the hours to be devoted to questions and a discussion of the local problems.

Owing to the fact that there had been a movable school of agriculture held at Rupert, no farmers' meeting was planned for this place.

Considering the weather the results were considered good. The roads were very heavy, a buggy being a good load for a team. On Tuesday evening it rained, and on Thursday evening snow was falling.

With the exceptions of Heyburn and Acequia, where the industry of swine growing has never been important, the interest was exceptionally good. After the meeting adjourned

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Minidoka (continued).

at Paul, a number of men remained until 12:45 a. m. asking questions; at Pioneer, some remained until 11:10; at Springsale, until 10:40; at Burley, until 5:15; and at Marshfield, until 5:35.

During the week ending February 20, four calls for plans for hog houses were received from Burley.

A cooperative cheese factory is being organized at Acequia. This is being done by business men and farmers. As there are not enough cows to conduct a factory at a profit, it is not deemed advisable to work with the organizors, or to encourage the movement. During Mr. Frevert's visit the movement was discouraged, but some are of the opinion that a factory will encourage the farmers to put in dairy cows.

Mr. J. S. Hyatt, with a pure bred herd, two miles from Heyburn, is now keeping cooperative records with Mr. Rinehart. His cows are all Jerseys of the Island type, with some good individuals. They test high but do not produce heavily.

Mr. Holt Nichols, of Rupert, has a good foundation herd of Berkshires and will pay considerable attention to breeding pure bred hogs. He is also very much interested in dairying.

Mr. J. M. Stoddard, of Burley, with a 160-acre stock farm, is much interested in starting into the pure bred business. He now has a dairy of thirty grade cows, mostly Jerseys, a Jersey bull, eligible but not registered, pure bred Poland Chinas, a good registered Belgian stallion, and a herd of grade Belgian and Percheron mare. Mr. Stoddard has been keeping cooperative records with Mr. Rinehart. As a result he will sell off all but eight of his cows, which number has been found to be yielding a good profit. He will also sell part of his mares-those of the poorest type-and a part of his hogs. He will replace the cows sold with one half the number of grade cows of a better type, and secure five good registered heifers. His best brood sows will be kept, but a better boar will be purchased.

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Mr. Stoddard has been using a milking machine since last April. At the present time, however, he has discarded it, and his reports in the use of it are not favorable. This is not in accordance with results in other parts of the State. Eighteen milking machines are in use and their results are being watched. In three cases, cooperative records have been kept both before and after the installation of the machines. In one of these the machine was discarded as the cows were not maintaining their milk flow as well as they did the previous year. Mr. Stoddard's machine is the second to be discarded, although this has been done more because of the trouble and difficulty with it than because of the falling off in production. This work will have to be investigated for a longer period before definite conclusions can be made. It will be done by field men in all sections of the State.

From the work done so far in two years' observation, the following preliminary conclusions may be made regarding milking machines:

1. To be successful a man of more than ordinary ability must be assigned to the management of the machine.

2. Changing men is more detrimental than in the case of hand milking.

3. The man managing the machine must be familiar with both the working of the machine and the individuality of each cow in the herd.

4. The machine will be found more economical and a greater labor saving device with heavy milkers than with cows that are light or medium producers.

5. If all cows in a herd milked the same, machine milking would be comparatively simple.

The following article, prepared by Mr. Rinehart, and published in the local papers on the Minidoka Project, during the week ending February 20, contains some valuable suggestions regarding the stockgrower's relationship to the present depression in the livestock market. The suggestion that periods of low prices afford excellent

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Minidoka (continued).

opportunities for herd improvement is particularly pertinent at the present time.

F. D. F.

The Prices of Hogs and Grain.

"An examination of the market reports for the past three months shows that there have been unloaded on the market many small pigs, pigs in poor condition, and many heavy hogs. This means that now, as has been the history of the industry in the past, the breeders are unloading heavily, cutting down their breeding herds and selling those that should have been finished later in the year.

A certain percentage of farmers follow the markets, planning their farm operations to correspond with current prices. When grain is high, they plan to become grain farmers; when hogs are high, the plan to become swine growers. Thus, they are stocking up when prices are high and unloading when prices are low.

It is a matter of history that the man who makes money out of hogs is the one who follows the business conservatively and constantly. When the market is high, he has hogs to sell at a large profit. When the market is low his profits are small, but, in the long run, his average is very good. This man never plunges; his farm is never overstocked or understocked with hogs, and he is the man who will tell of the profits of swine growing.

A study of the prices of grain and hogs shows that at a period when grain goes up it is only a short time until the price of hogs follows. Often, however, as is the case today, when the price of grain starts up, the price of hogs starts downward, and remains low until the unloading process is over.

An Idaho stockman of great reputation, one who has followed the game successfully for many years, recently bought between two thousand and three thousand shoats that had been unloaded on the market. On the Twin Falls Tract he is now feeding them alfalfa hay, cooked potatoes, and corn purchased at $1.65 per cwt.

The quality of breeding herds as well as the care and

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Minidoka (continued).

management have never been as important in Idaho as today. Just as our dairy stock must improve on high priced land, so must the quality of our hogs improve as the prices of grain go up. The man who will make a profit on hogs from year to year is the one who is interested in the work and finds time to give his hogs special care.

Now is a good time to get rid of the inferior animals in the herd. Good breeding stock can be purchased cheaper than at any other time. A good pure bred boar is the only kind that can be guaranteed profitable. When prices are low no one can afford to raise and feed poor stock.

In the feed of the hogs alfalfa hay can be made the basis of the ration. Roots should be fed constantly. Middlings or shorts is one of the best of feeds for brood sows and growing pigs. Fortunate, indeed, is the man who has skim milk. On farms where there is no skim milk, when the present prices prevail tankage is one of the cheapest feeds."

Umatilla.

Arrangements have been made with the Division of Publications whereby a copy of the recently issued Farmers' Bulletin 637, "The Grasshopper Problem and Alfalfa Culture", will be sent to each farmer on the Umatilla Project. Grasshoppers have done great damage on the Project during recent years, and it is believed that the suggestions made in the bulletin mentioned will be helpful.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

During the week ending February 20, the maximum temperature was 74, minimum temperature 41, and greatest daily range 30. A shower of .15 inch occurred on February 19th. The greater part of the week was warm and clear.

A large number of the fruit trees are in bloom, and the summer grasses and weeds are starting growth.

Manure from the corrals was hauled out during the week.

Plats A6-15, A6-17, B4-12 and B6-6 were manured.

Several fallow fields were double disked to kill volunteer oats and weeds.

The farm roads were graded.

The orchards in which field peas are not growing were double disked.

Milo and Sudan grass seed produced on the farm was recleaned and made ready for planting and distribution.

Seed corn was shelled.

Truckee-Carson.

During the week ending February 13, the maximum temperature was 60, minimum temperature 22, and precipitation .86 inch.

There was a heavy wind storm early in the week, followed on the 9th and 10th by a good rain, and on the 11th by a snow. This was the first precipitation of any amount for several months. The snow fall in the mountains was very heavy, 18 feet having been reported at the Summit of the Sierras.

Work was continued with one four-horse team in leveling field B during the first part of the week. One man was employed cleaning irrigation ditches for three days.

The farm harness was given a thorough overhauling and

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

repaired, and most of the tools were repaired.

The new fence in front of the farm was given a coat of white wash.

During the week ending February 20, the maximum temperature was 60, minimum temperature 22, and precipitation .09 inch.

The work of leveling field B and of cleaning irrigation and drainage ditches was continued during the week.

A meeting was held in Fallon relative to the sugar beet industry. The Company will run the factory this year if contracts for 4,000 acres can be obtained, otherwise, the factory will be torn down and moved to Utah. An attempt is being made to secure the necessary acreage and keep the factory on the Project.

Yuma.

During the week ending February 20, the maximum temperature was 74, minimum temperature 37, and greatest daily range 33. The precipitation amounted to .26 inch.

Leveling with two 4-horse teams was begun on B1 to 5.

Plats A-10_2 and 13-2.4 were plowed.

Deciduous orchard, B-23 to 32, was pruned.

The mess building is entirely enclosed, shingled, and ready to lath.

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FIELD NOTES.

North Platte.

During the week ending February 27, farmers' institute meetings were held at Morrill, Shamrock, Pleasant Valley, Hope, Scottsbluff, and Fairview. The speakers at these

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Field Notes.

North Platte (continued).

meetings were Professor Frandsen and Professor Pier, of the University of Benraska, and Messrs. Knorr and Jones. Professor Frandsen's lectures were on dairy problems, Professor Pier's on home economics, Mr. Knorr's on various crop production problems, and Mr. Jones' on swine production. The total attendance during the week was between 800 and 900.

In connection with the lectures demonstrations were made in stock judging and cooking.

Mr. Knorr reports that at these meetings it was brought out that the buying of old sheep to be pastured on alfalfa has not been very profitable on the Project. A number of farmers reported that they had been successful in pasturing alfalfa with cows, although they stated that the yield of alfalfa is generally reduced by pasturing. It seemed to be the general opinion that the danger of bloat is decreased if the alfalfa is kept closely pastured. One farmer reported the he intends to plow up a 3-acre blue grass pasture because be believes that this pasture requires more frequent irrigation, and other attention, than the value of the pasture warrants.

Several farmers promised that they will later furnish complete statements as to their incomes from old sheep pastured on alfalfa for summer market.

The Relation Between the Number of Hogs per Farm and the Character of Crops Grown.

A study has recently been made to find whether a definite relationship exists on the North Platte Project between the number of hogs carried on a farm and the character and acreage of crops grown on the same farm. The study was based on figures furnished by the Reclamation Service relative to cropped acreages and the number of hogs per farm. The figures apply to conditions on the North Platte Project on November 1, 1914.

The data are tabulated in the following table, in which the farms are classified on the basis of the number of hogs

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North Platte (continued).

per farm. The first column gives the classification; the second, the number of farms in that classification; the third, the average number of hogs per farm in the specified class; and the remaining columns state the average acreages per farm, of the specified crops in 1914.

Number of hogs per farm.	Number of farms	Average number of hogs per farm	AVERAGE ACREAGE PER FARM.						
			Total cropped	Alfalfa	Barley	Corn	Wheat	Beets	All other crops
1 to 9	142	4.6	63.0	38.0	2.1	4.8	0.5	7.7	9.5
10-25	144	16.3	70.9	41.9	2.3	6.1	0.8	8.4	10.9
26-50	124	39.1	71.7	46.7	2.6	7.6	0.5	5.0	10.4
51-75	42	63.0	74.6	50.5	1.5	8.2	1.0	3.4	9.9
76-100	35	89.8	81.0	52.7	4.4	6.9	0.3	8.7	8.1
101-150	24	130.8	88.1	62.0	8.0	5.4	0.2	5.1	7.3
151-200	8	186.0	91.9	62.5	3.5	10.1	3.0	6.1	6.7
201-300	6	244.1	69.3	48.3	9.0	9.7	0.0	0.2	2.2
301-400	2	338.0	94.0	70.0	10.0	4.0	9.0	0.0	1.0
401-500	1	475.0	80.0	61.0	0.0	0.0	0.0	10.0	9.0
501-600	1	600.0	76.0	65.0	10.0	0.0	0.0	0.0	1.0
Over 600	1	650.0	76.0	50.0	0.0	25.0	0.0	0.0	1.0
1 to 650	530	41.9	70.9	42.7	2.8	6.5	0.7	6.7	9.8
Totals for 530 hog farmers	No. of hogs 22,231		TOTAL ACREAGE						
			37,623	23,631	1462	3420	345	3530	5160

As shown in the table, the size of herd varied from 1 to 650 head, the average being 41.9. The total cropped acreage averaged 70.9; the average acreage of alfalfa was 42.7; of barley, 2.8; of corn, 6.5; of wheat, 0.7; of beets, 6.7; and of all other crops, 9.8.

In the first 6 classes, the increase in the average number of hogs per farm was accompanied by a constant increase in the total cropped acreage and in the alfalfa acreage, and by a general, but not consistent, increase in the acreage of barley. Considering the last 6 classes, in each of which the number of farms averaged was very small, the figures are

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inconsistent. One of the most striking things shown in the table is the remarkably low acreage of wheat, and the high acreage of corn as compared with that of barley.

A study of the entire table indicates that the swine industry on the North Platte Project has not yet reached a condition of equilibrium in which there is a definite relationship between the number of hogs per farm and the character and acreage of crops grown.

Tieton.

Request has been made for the appointment of Mr. R. P. Bean, of South Dakota, who is expected to begin demonstration work on the Tieton Project, Washington, on March 16. The Tieton is one of the newer projects, most of the land at present having been reclaimed within the past three years.

The agriculture of the project will probably be based on a combination of fruit and livestock, but for the next few years, it is likely that livestock industries, particularly, dairying and swine production, will receive most attention. The farms are small, the average acreage per farm being about 25 acres. The soil and climate are favorable to heavy crop production.

In 1914, there were 900 farm units in operation. The principal crops produced were alfalfa, corn, small grains and potatoes; but about 7,000 acres of the land was planted to orchard. The dairy industry is already important, there having been 887 cows on the project in 1914, of which 267 were purchased during the year. There were on the project last November, 21 silos, of which 12 were built in 1914.

Mr. Bean's work will be centered around the dairy and swine industries, and his headquarters will be at North Yakima.

Shoshone.

Mr. Don G. Magruder, who is to begin demonstration work on the Shoshone Project, Wyoming, March 10, visited the Washington office from March 1 to 4, for the purpose of getting

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Field Notes.

Shoshone (continued).

instructions relative to his field work.

Livestock industries, particularly dairying and swine production, have developed rapidly on the Shoshone Project during the past two years. There is now a farmers' cooperative creamery with 90 members, and about 150 patrons. Cream is supplied by about 800 cows.

Mr. Magruder's headquarters will be located at Powell.

Truckee-Carson.

Results of Milking Machine Test.

Mr. Cline has submitted the following report on a test of a Hinman Milking Machine, recently conducted on the farm of Mr. Hancock. This machine consists of 3 buckets, 6 pumps, and 3 sets of tubes and teat cups, so that 3 cows can be milked at one time. The machine, exclusive of the power - a 5 horsepower gasoline engine - cost about $100, delivered at Fallon. It is stated that a much smaller engine would furnish sufficient power.

"Considerable investigational work with the different makes of milking machines has been carried on at various state experiment stations for the past eight or nine years, with varying results. While the milking machines as a whole have not proved as efficient as the best hand milking, it must be admitted that with reasonable care several makes of milking machines have been able to accomplish very satisfactory results; and on account of the labor saving advantages of the machines they have proved to be a very valuable asset to the dairy industry.

Since only one make of milking machine was in operation on the Truckee-Carson Project, and in view of the fact that there were some machines installed and not in use, and that the owners of some others were in doubt as to their practicability, it was deemed advisable to run a test under practical conditions in order that there might be obtained some first hand information for the dairymen. The test of the milking machine was conducted on a herd of ten high

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Truckee-Carson (continued).

grade Jersey cows in varying stages of lactation. The test extended over a period of eleven weeks. All conditions that would influence the normal milk flow were very carefully guarded. The cows were milked first by the machine method, and then by the hand method. Each test period represents two weeks time with an intervening period of one week between each two test periods. During the intervening period the cows were milked by the same method that was to be used in the test period to follow. Towards the close of the experiment the feeding conditions were a little unfavorable, which would tend to cause an abnormal decrease in the milk flow for the last test period as compared with the other test periods. When we consider the total production in milk and butter fat of the ten cows for each fourteen-day period by the hand method and by the machine method, from the beginning to the end of the experiment, we have these figures:

	Milk, lbs.	Butter fat, lbs.
First period (machine method).....	2982.9	137.1
First period (hand method).....	2872.5	134.5
	110.4	2.6
First period (hand method).....	2872.5	134.5
Second period (machine method).....	2745.5	129.41
	127.	5.09
Second period (machine method).....	2745.5	129.41
Second period (hand method).....	2615.2	124.9
	130.3	4.5

When the results of the first period machine method are compared with the results of the first period hand method which follows it after a preliminary intervening period of one week, there is shown a difference of 110.4 lbs. of milk, and 2.6 lbs. of butter fat. When the first hand method is compared with the second machine method, there is a difference in production of 127 pounds of milk and 5.09 pounds of butter fat. When the second machine method is compared with the second hand method which follows it, there is found a difference of 130.3 pounds of milk and 4.5 pounds of butter

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Truckee-Carson (continued).

fat. From the above figures it is shown that for each two weeks test period and the one week intervening period in all cases the decline in the milk and butter fat production was practically the same. This decline in production when distributed among ten cows for the time mentioned is something near what might be expected in the natural decline of the milk flow in the herd of dairy cows. In other words, there seems to be a gradual decline in the milk flow for the herd of ten cows from the beginning of the experiment until its close, and the rate of the decline in the milk flow does not seem to have been affected more by one method than by the other.

The following table shows the production of the ten cows for each period of the experiment and makes comparisons easy.

Period	Days	Method	Milk, Lbs.	Fat, Lbs.
Oct. 10 to Oct. 23	14	Machine	2982.9	137.10
Oct. 31 to Nov. 13	14	Hand	2872.5	134.50
Nov. 24. to Dec. 7	14	Machine	2745.5	129.41
Dec. 13 to Dec. 26	14	Hand	2615.2	124.90
First and Second	28	Machine	5728.4	266.51
First and Second	28	Hand	5487.7	259.40
Difference			240.7	7.11

The above table shows a slight difference in favor of the machine method of milking, when the total production is considered. However, since the results of the machine method are compared with the results of the hand method which came at a later period in the experiment, and at a time when the cows were further advanced in lactation, the difference is easily accounted for. So far as this particular test is concerned, the figures show that the machine method of milking neither increased or decreased materially the milk flow or the production of butter fat. The question therefore must be one of economy in time.

The men having charge of the work in connection with this test found that one man with a machine could milk twelve to thirteen cows per hour, in addition to taking

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Truckee-Carson (continued).

care of the machine, whereas the same person could milk by hand an average of eight cows per hour, and that the milking of 16 to 20 cows by hand was a dreaded task, while with the use of the milking machine the same or a larger number of cows could easily be cared for.

The fact must not be overlooked that milking by machinery is purely mechanical and that the tendency is to treat all cows alike. This is where the milking machine often falls into bad repute. The difficulty, however, is quite often due to the lack of care upon the part of the operator. It is absolutely necessary to strip the cows by hand after the teat cups of the milking machine are removed. These strippings will vary in amount from a few streams to four or five pounds with the different cows. Some cows never milk out so well with the machine as by hand. If the cows are not stripped after the machine is removed there is considerable danger of drying off the cow, or having udder trouble.

The longer test would have been much better but feeding conditions would have made a too radical change for a longer test".

NO LIVESTOCK WORK AUTHORIZED.

The Act making appropriations for the Department of Agriculture for 1916 does not include an item for livestock experiments in the arid and semi-arid regions. Such an item was placed in the bill by the Senate Committee and adopted by the Senate, but was finally rejected by the Conference Committee.

C. S. S.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Umatilla.

During the week ending January 23, the maximum temperature was 37, minimum temperature 20, greatest daily range 16.

A pruning demonstration was held at Stanfield on January 22, with an attendance of about twenty. The pruning of apple trees of several ages was discussed, and the results of summer pruning on both apples and cherries were gone over.

A pruning demonstration was held on the experimental farm at Hermiston, but due to the adverse weather conditions, few were in attendance. The pruning of apple trees of several ages was discussed. Another demonstration will be held later.

Mr. Allen returned to the Farm during the week.

During the week ending January 30, the maximum temperature was 32, minimum temperature 18, and greatest daily range 14.

Work on continued in graveling the road through the Farm.

Mr. Allen left the station on the 24th for Corvallis, Oregon, where he will assist in the short course.

During the week ending February 6, the maximum temperature was 51, minimum temperature 26, greatest daily range 20. The precipitation amounted to .54 inch.

During the week ending February 13, the maximum temperature was 58, minimum temperature 24, greatest daily range 31.

Work was continued on the road between fields B2 and B3-4. Loose gravel is being placed on this road. It will later be covered with clay and gravel from a hardpan layer that crops out of the hill near the farm buildings.

Mr. Allen returned to the Farm on February 11 from the college at Corvallis, where he assisted with the short course work, and completed the manuscript for two bulletins which will soon be issued.

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Field Notes.

Umatilla (continued).

During the week ending February 20, the maximum temperature was 59, minimum temperature 18, greatest daily range 33. The precipitation amounted to .32 inch.

The thirty-six plats necessary for conducting an experiment on soil fertility and crop rotation were laid out in field D4, and the plans made. Material for use in conducting water to the plats has been ordered.

Mr. Dean returned to the Farm after having completed his work at the Washington office.

During the week ending February 27, the maximum temperature was 59, minimum temperature 33, greatest daily range 29. The precipitation amounted to .02 inch.

The iron pipe that has been used in irrigating the yard was taken up and put down to carry water to the lysimeter experiment and the evaporation tank when it is placed at the east side of field A3. Water will be taken to the yard through 4-inch wood stave pipe.

The trees in field C1, and part of those in C2, were pruned during the week.

Truckee-Carson.

During the week ending February 27, the maximum temperature was 55, minimum temperature 22, precipitation .14 inch.

Field H-1, 2, 3, 10 was plowed and leveled. The land is being made ready to pasture grasses.

Two men worked throughout the week cleaning "C" drain.

On the 27th, Professor Lehrembauer, Horticulturist of the University of Nevada, gave a demonstration in the pruning of fruit trees on the experiment farm. About fifty farmers were present. So much interest was manifested in this meeting that arrangements were made for further demonstrations to be made in cooperative with the University of Nevada. Further demonstrations will probably cover the following subjects: Spraying of fruit trees; selection of seed potatoes and their treatment for disease; and treatment of seed grain for smut.

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Field Notes.

Truckee-Carson (continued).

The following is a comparative weather report for the month of February at the Truckee-Carson Experiment Farm for the years 1914 and 1915. The third column, under the caption "Average", gives the average for all years for which records are available.

	1915	1914	Average
Maximum temperature, Degrees F.	60	68	64.8
Minimum temperature, Degrees F.	13	17	10.
Mean temperature, Degrees F.	39.6	35.8	37.2
Precipitation, inches.	1.13	.31	.40
Evaporation	2.063	1.761	1.93
Wind velocity	5.3	3.4	3.8
Days clear	5	19	13.9
Days partly cloudy	10	2	8.2
Days cloudy	13	7	5.9

Scottsbluff.

Under date of March 6, Mr. Knorr reported that two feet of very light, loose snow covered the ground, and that a wind storm at that time was feared, since this would have resulted in a severe blizzard.

On account of the weather very little outside work has been done on the farm during the week, except chores, and the carpenter who is working on the rooms of the seed house, was able to work only one day.

All of the stock have been doing well, but the brood sows have started to fall off badly on account of the prolonged bad weather. For that reason they were fed some corn, at the rate of $1\frac{1}{2}$ pounds per hog per day.

San Antonio.

During the week ending March 6, the maximum temperature was 75, minimum temperature 32, and greatest daily range 42.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued).

Rain fell on three days, the total precipitation for the week being .77 inch. This rain, in addition to that occurring last week, put the land in excellent condition for planting. Light frost occurred on two mornings, but no serious damage was done at the station.

Field work for the week consisted in harrowing all fallow fields.

Messrs. E. B. Brown and J. S. Griffin arrived at the station early in the week, and spent the 6th in planting corn varieties.

Arrangements have been made with the City of San Antonio for the continuation of the work. Three acres of land were deeded to the Government on which to build permanent improvements, and city water is to be furnished on or before July 1, 1915.

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FIELD NOTES.

Truckee-Carson.

During the month of February, 38 farmers made use of the Bureau of Exchange, which is being conducted under the direction of Mr. Cline. In this connection a circular letter is distributed each month to all the farmers on the Project, giving the names, addresses, and telephone numbers of farmers who list articles for sale or wanted. The circular also names the articles in each case.

The letter issued February 28 contains the names of 38 farmers, of whom 25 listed articles for sale, 2 for sale or rent, 1 for sale or exchange, and 2 for rent; and 8 listed articles wanted. The articles listed include poultry, seeds, household goods, land, horses, cattle, pigs, farm implements, nursery stock, hay, stores, milk testers, incubators and brooders. One farmer stated that he would like to cooperate with

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FIELD NOTES.

Truckee-Carson (continued).

others in the purchase of a carload of gypsum. Since practically all the articles listed as wanted are listed by others for sale, it seems likely that the circular letter will result in bringing together buyer and seller in a large number of cases.

Incidentally, these letters should do a good deal towards stimulating community interest.

Minidoka.

For the purpose of securing first hand information regarding the benefits of standardization of live stock and community breeding, the Richfield Berkshire Breeders' Association was visited during the week ending February 27, and their methods of securing, distributing, feeding, and advertizing stock, and the results obtained, were secured. This organization is prving very successful and will be written up in detail later.

Owing to requests from five sections where other meetings had been held, four dairy meetings were held during the week. Mr. Stinson, of Nampa, a State Institute lecturer, attended these meetings.

The following meetings were held:

		Attendance
Pioneer.....	Feb. 24 -- 8 p. m.	19
Acequia.....	Feb. 25 -- 8 p. m.	34
Rupert.....	Feb. 26 -- 2.p. m.	47
Rupert.....	Feb. 27 --11 a. m.	24
Burley.....	Feb. 27 -- 2 p. m.	56

A meeting planned for Heyburn on the 25th (afternoon) was called off owing to the fact that a dairy sale was being held in this community at this time.

The meeting at Rupert on the morning of the 27th was with the Minidoka County Pomona Grange.

Mr. Stinson has had 23 years experience in irrigation farming, in two irrigated sections in Washington, and on the Boise Project in Idaho. After trying fruit raising and truck and general farming, he finally settled down to dairying. Near

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

Nampa, Idaho, he has a twenty-acre farm. Here he has a farm orchard and a dairy of 12 cows in milk, together with their young stock, one brood sow and three horses. The soiling system is used in the summer while the winter feeds consist of corn silage, alfalfa hay and some grain. All the roughage used is raised on the wenty acres while the grain is purchased. After paying the feed bills and other necessary expenses, the cash income last year was $1512.00

Mr. Stinson has also been active in the organization and operation of the Nampa Cooperative Creamery, which was the first in Idaho to be successful.

For the past three years, Mr. Stinson has been a close cooperator with the field men, so that the figures given are correct. His cash income has been increasing at the rate of almost $200 yearly.

At each meeting Mr. Stinson gave his experiences and methods of management, and created much interest. Discussions along the line of local problems were also given.

As Mr. Stinson was one of the first men in the State to have a silo and is so enthusiastic for the use of corn silage, he was taken to the farms of the men contemplating silos.

At the dairy meeting held on the 27th, sickness of hogs belonging to Mrs. Victoria Peterson, of Burley, was reported. An investigation showed that cholera was present and that the infection was very bad, one hog being dead and several others too far gone to save.

On the 1st of March Dr. Henderson, of the B. A. I. Hog Cholera office at Twin Falls vaccinated the herd. The disease was so far advanced that no high temperatures were found. Six hogs fattened and ready for market were so nearly dead that they were killed. Five others in the same pen were badly infected but were vaccinated, although it was not believed they could be saved. In other pens, twenty-five yards away, three brood sows and seven shotes that were affected, though not in so advanced a stage, were vaccinated. It is probable that these are all that will live. Since vaccinating, one brood sow has farrowed a litter of strong, healthy pigs.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued).

This farm is rather remote from those formerly infected. On the adjoining farm lie three dead horses to which coyotes and dogs came each night. The infected hogs also had access to the carcasses. It is Dr. Henderson's opinion that cholera came in this way.

Mr. T. W. Potter, State Club Supervisor, spent two days on the Project. Boys' and Girls' clubs were oganized at Burley, Heyburn, Pioneer, and Rupert. The girls sewing and canning clubs will be supervised by the Domestic Science teachers. The boys' pig clubs and corn clubs will be supervised from this office.

North Platte.

During the week ending February 20, a pure bred Poland China hog sale was held by Tilden Bros., seven miles northeast of Scottsbluff. As a whole, the hogs sold were an exceptionally good class of hogs and sold well. The offerings were tried sows, bred, bred spring gilts, a few last spring's males and September shotes.

The sale was topped by a two-year old bred sow that sold for $90. The last spring's gilts averaged about 275 lbs., and sold for an average of $57. The September shotes averaged about $15 each. This makes the fifth pure bred hog sale on the Project during the past four months. During the sale several animals were selected for parties that wanted to buy Poland China hogs.

During the first part of the week a call was received from the Morrill County sheriff, who said that a farmer in that county was not properly disposing of the hogs in his herd that had died from some disease. An investigation proved that the hogs had cholera, and the party was instructed to burn all dead hogs around his premises.

Another Empire milking machine has recently been installed in a dairy near Scottsbluff, and is giving good satisfaction.

During the week, plans were furnished for a colony hog house and a number of movable hog houses. For the colony hog house, the type with the long, axis extending north and south, was recommended. Two rows of pens extend the entire

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
FIELD NOTES.

North Platte (continued).

length of the building, except at one end where feed rooms are located. An alleyway extends the entire length of the house between the pens. Glass windows are placed on the east and west sides of the hog house to admit sunlight. Small runways extend outward from each of the pens in the house so that the pigs can be let out for exercise and sunlight when desired. When the house is arranged this way the sun strikes both sides and the south end, and the house gives very satisfactory results.

The "Nebraska Farmer", in its issue of March 3, publishes a paper on"The Serum Alone Treatment for Hog Cholera", which was read by Mr. Jones at the meeting of the Nebraska Swine Growers' Asscciation, on January 19.

A two-page circular letter on the subject of Infectious or Canker Sore Mouth in Pigs will be mailed to all the swine growers on the Project on March 15.

GRAIN ON FARMS-MARCH 1.

Under date of March 8, 1915, the Bureau of Crop Estimates issued a statement relative to the stocks of grain on farms in the United States on March 1, from which the following figures are taken:

	Millions of bushels on farms-March 1.			Price, cents on March 1.	
Grain	1915	1914	5-year Average	1915	1914
Wheat	152.9	151.8	150.6	133.6	83.1
Corn	910.9	966.4	1036.6	75.1	69.1
Oats	379.4	419.5	424.4	52.1	38.9
Barley	42.9	44.1	41.5	67.7	51.1

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RETURNS FROM FEEDING HOGS.

An article with the above title, appearing in the Breeders' Gazette for February 25, contains some figures which make it possible to compare in a general way the methods employed and the results secured in pasturing alfalfa with hogs in the Middle West and on irrigated lands. The article was written by a farmer in Champaign County, Ohio. This farmer purchased 120 head of hogs and placed them on a 25-acre field of alfalfa on July 7, 1914. The hogs were fed a heavy ration of corn and a light ration of rye, in addition to the alfalfa pasture. They were kept on the pasture until Sept. 5, when they were sold.

A comparison can be made between the Ohio results and some of the results secured by Mr. Knorr at the Huntley Experiment Farm in 1914. Mr. Knorr pastured 4 hogs on a quarter-acre of alfalfa from April 27 to July 5, 1914. In addition to the alfalfa pasture these hogs were given about a 2% ration of corn.

The hogs in both lots were given various condiments, such as slack coal and rock phosphate. In the comparisons here made the small cost of these condiments is not considered. The cost of labor, interest on investment, and other similar items are also ignored.

The reasons for comparing these two particular lots are that they were pastured approximately the same length of time, 66 days in one case, and 70 days in the other; that the initial weight per hog was the same in both cases, and that both lots were pastured on alfalfa and fed grain. Certain comparable items in the results are shown in the following table.

Item	Ohio	Huntley
Acreage of alfalfa	25	0.25
No. of days pastured.....	66	70
No. of hogs.....	120	4
Initial weight per hog, Lbs.....	113	112.6
Final weight per hog, Lbs.....	226	175.8
Gain per hog, Lbs.....	113	63.2
Gain per hog per day, Lbs.....	1.71	0.90
Percent daily gain.....	1.05	0.64
Corn fed per day per hog, Lbs.....	5.8	2.9

(continued)

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Returns from Feeding Hogs (continued).

Item	Ohio	Huntley
Rye fed per day per hog, Lbs.	0.9	--
Total grain fed per day per hog, Lbs.	6.7	2.9
Total grain fed per hog, Lbs.	445	204
Pounds of grain per pound gain.	3.9	3.23
Weight of hogs per acre of pasture, Lbs.		
At beginning of period.	542	1801
At close of period.	1084	2812
Net Return per acre of alfalfa.		
With grain at 1¢ and hogs at 7¢.	$10.50	$38.08

It is shown in the above table that the Ohio pigs made an average daily gain of 1.71 pounds, as compared with 0.9 pound made by the Huntley pigs. The percentage daily gains were 1.05 and .64 respectively. The Ohio pigs were each fed an average of 5.8 pounds of corn, and 0.9 pound of rye, a total of 6.7 pounds of grain per day, while the Huntley pigs were each fed only 2.9 pounds of corn per day. As the table shows, it required 3.9 pounds of grain for every pound of gain placed on the Ohio pigs, while the corresponding figure applying to the Huntley pigs was 3.23

The weight of pigs carried per acre of alfalfa varied rather widely. In Ohio the weight per acre was 542 pounds at the beginning, and 1801 pounds at the close, while at Huntley these weights were 1084 pounds and 2812, respectively. The last figures in the table show the net returns per acre of alfalfa in the two places, when grain was valued at 1¢ per pound and pigs at 7¢ per pound live weight. These figures are obtained by subtracting from the value of the gain at 7¢ the cost of the grain fed at 1¢ per pound. It is seen that the net return per acre of alfalfa at Huntley was nearly four times as high as it was in Ohio.

The article published in the Gazette contains no data from which the returns per ton of alfalfa can be calculated. The writer of the article merely states "The hogs without the alfalfa would have eaten at least one-third more corn".

The above figures can not be used in favor of either locality; they simply illustrate a difference between the objects sought in the two places. In Ohio the farmer desired to make some money by feeding pigs. In doing this he bought pigs and grain and incidentally pastured the pigs on alfalfa. At Huntley the farmers' chief problem is to dispose of his alfalfa at

Returns from Feeding Hogs (continued).

a profit. He therefore uses hogs and feeds as little grain as is consistent with high returns per acre of alfalfa. This difference in problems to be met at the two places is reflected in the methods followed. The Ohio farmer fed grain very heavily, and, consequently, received comparatively little from his alfalfa pasture, while the method followed at Huntley was the reverse of this.

The comparison made above, while not highly dependable, because of various discrepancies, is nevertheless useful in illustrating the fundamental difference in the economic and agricultural conditions confronting the farmers in the two localities. It emphasizes the fact that on the Reclamation Projects the chief problem has to do with the disposal of crops, particularly alfalfa.

F. D. F.

INVENTORY.

Attention is invited to the following memorandum, dated November 21, 1914, and signed by the Chief Clerk of the Bureau. Compliance with this memorandum in submitting inventories is requested.

"It has been noted that property is being reported on inventories as having been worn out or broken, so as to be of no further use, but no statement is submitted explaining what disposition is made of the worn or broken parts.

In many instances they would be of value, either as junk, in case of metal parts, or might be of use to private parties, if they came into their possession.

All inventoriable property in Washington, when worn out or broken, should be turned into the Bureau Property Clerk for disposal through the Department Board of Survey.

In all cases where such property is outside of Washington, and it would not be salable on account of the distance from a possible purchaser, or lack of value, or when it would not pay to have it shipped to Washington for disposal, a certificate signed by the officer in immediate charge should accompany the inventory, showing that it has been broken or destroyed in such a manner as to be of no further value or use to any one.

Reports are also being received of the deaths of animals which

13 March, 1915.

Inventory (continued).

are the property of the Bureau, but no certificates of the circumstances causing their deaths are submitted.

All such reports should be supported by statements signed by the officer immediately responsible and by a veterinarian whenever possible, stating the circumstances under which the death took place.

(Signed) James E. Jones,
Chief Clerk."

SKILLED LABOR,
Employment of.

Following is a copy of a memorandum to heads of offices dated March 10, 1915, and signed by the Chief of Bureau, relative to the employment of skilled mechanics at field stations. All of the field stations of the Office of Western Irrigation Agriculture are designated as falling within the scope of this order, and farm superintendents should be governed accordingly.

"The Department has been in correspondence with the Civil Service Commission in regard to the matter of the temporary employment of carpenters, painters, plumbers, bricklayers, plasterers, and other skilled mechanics at the various field stations maintained by this Bureau, with a view to making some arrangement whereby help of this kind might be secured with less delay than we have at times experienced. The Commission proposed that we furnish a list of our field stations where the services of temporary mechanics might be required, and stated that their district secretaries would keep the superintendents of such stations advised of available eligibles. The list was accordingly furnished the Commission, and a copy of it is attached hereto. The following extract from a letter from the Civil Service Commission of the 3rd instant explains how the appointment of temporary mechanics at field stations will henceforth be handled:

" * * * The Department is respectfully advised that the district secretaries have been informed of the field stations and the names of the superintend-

Skilled Labor (continued).

ents, and requested to furnish eligibles for temporary appointments whenever the needs of the service appear to require. If the Commission has a local secretary at any of the points named, the lists will be furnished him and the superintendent will be advised to call upon such secretary for eligibles when he has need of the services of temporary mechanics. At places where there is no local secretary and lists are furnished, they will be furnished direct to the superintendent. If the superintendent has not been furnished a list of eligibles direct, or if he has not been advised as to whom to call upon for such list, and it becomes necessary to make temporary appointments, they may be made without reference to the list of eligibles, but it must be reported by the superintendent at once by letter, with a full statement as to the needs of the service.

The Commission respectfully requests that when changes occur in the location of field stations, by the discontinuance of old stations or additions of new ones, the Department advise the district secretary or district secretaries of such change."

When changes are requested in the list of field stations this office should be advised in order that the civil service district secretaries may be notified.

(Signed) Wm. A. Taylor,
Chief of Bureau.

It is to be understood that this order in no way interferes with the employment of skilled mechanics for periods not exceeding thirty days in any one year, and is applicable only to cases where the services of such mechanics may be desired for periods necessitating appointment.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending February 27, the maximum temperature was 74, minimum 32, and greatest daily range 34.

Leveling was continued on field B-1 to 5.

The deciduous and fig orchards were cultivated, also date nursery plats.

The Mess building was plastered and painted the first coat.

During the week ending March 6, the maximum temperature was 75, minimum 31, and greatest daily range 37. The precipitation amounted to .01 inches.

The following plats were disked; A-16 to 21 and 25, C-6,7,25 to 28, D-45, and E-1 to 6.

The fig orchard was pruned and brush removed. $A\text{-}15_5$ - 16,17,25 and deciduous orchard were hoed. Plats $A\text{-}14_8$ - 15_6 - C-18,42,43 and F-1 were cultivated.

Some S.P.I. trees were planted on D-44, also grape cuttings on $A\text{-}10_1$ nursery. $A\text{-}14_3$ is being set out to chrysanthemums.

Leveling on B pasture lands is about completed. Twenty acres were irrigated.

Truckee-Carson.

During the week ending March 6, the maximum temperature was 56, minimum 22, precipitation .44 inches.

Field "D" was plowed and will be releveled into long, narrow checks which can be irrigated by the "border system" instead of by "flooding the checks", the plan previously used.

The leveling of plats formerly shown on the map as H-1,2,3, and 10 was nearly completed.

Gypsum was applied to a newly leveled piece of land between the club house and the west line fence at the rate of 4 tons per acre.

Gypsum was also applied to one-half of each of 4 plats around the ditch rider's house situated just west of the sugar beet factory. The gypsum was applied at approximately 4 tons per acre. Soil samples taken from these plats were found to contain soluble salts as follows:

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued).

	Plat 1. Percent	Plat 2. Percent	Plat 3. Percent
SURFACE 8 inches.			
Na_2CO_3	.053	.048	.074
$NaHCO_3$	.075	.042	.050
NaCl	.120	.018	.073
Na_2SO_4	.155	.000	Trace
SUBSOIL 8 to 16 inches			
Na_2CO_3	.011	.095	.032
$NaHCO_3$	.050	.050	.058
NaCl	.321	.044	.315
Na_2SO_4	.485	.000	.275

The fruit and ornamental trees in orchard and nursery were pruned.

San Antonio.

During the week ending March 13, the maximum temperature was 68, minimum temperature 31.5, and the greatest daily range 31. The total precipitation was .37 inch, most of which came as snow. Snow begun falling Monday morning about ten o'clock and continued throughout the greater part of the afternoon. Some snow also fell Tuesday morning. Practically all of the snow melted on falling. However, freezing occurred for a short time on Monday afternoon.

Unfavorable weather prevented field work for a part of the week. After the fields were dry enough, the following work was done:

Orchard E4 and part of field C5 were disked.

Canada field peas were plowed under on plats B6-8, B6-10, and B4-15. Canada field peas on plat B4-15 were cut for hay.

The Texas Corn Growers Association varieties of corn were planted on C5 on Saturday. Also Mr. Collins' corn experiments were planted on C5 on the same date.

Contruction of the new sewer through the farm cut off the supply of sewer water for the farm. This made necessary the

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued).

making of a tunnel under the sewer in order to fill the eastern tank on the farm into which the sewer water is run before pumping. This was done during the week and the eastern tank was cleaned. It is expected that city water will be piped out to the farm by the 1st of July and this tank will then be abandoned.

Commissioner of Agriculture of Texas, Fred W. Davis, visited the station on Thursday. He was particularly interested in the Canada field pea as a green manure and hay crop.

Work was begun on clearing a part of the three acres of land recently obtained.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Truckee-Carson.

Cooperative demonstrations have been arranged for with a number of farmers on the project with a view to determining the best methods of producing crops to supplement alfalfa in feeding of hogs and dairy cattle. This crop production work will be carried on in cooperation with Mr. Headley, Superintendent of the Truckee-Carson Experiment Farm.

The hog industry on the project is gradually attracting more attention. There has recently been considerable demand for purebred sires. An important problem in connection with the production of hogs is the securing of grain with which to supplement alfalfa. During recent months the price of grain has been practically prohibitive. This has induced many farmers to plan to produce crops for finishing their hogs for market. This will result in the bulk of the hogs being marketed before the winter months, as the crops grown will be harvested by the hogs.

During the month of February, 20 Holstein cows and 2 registered Holstein bulls were imported to the project. The restrictions due to the quarantine against the foot and mouth disease have prevented the importation of dairy cattle from outside States. As soon as the quarantine is raised the Churchill County Creamery expects to import several carloads of dairy animals.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
FIELD NOTES.

Truckee-Carson (continued)

During the month of February cow testing work was done in 10 herds, including 55 cows.

The local creamery purchased, during the month of February, 14887 pounds of butter fat at an average price of 28.3 cents. Cream was furnished during the month by 140 patrons.

North Platte.

During the week ending March 6, a Duroc Jersey hog sale was held by Whitehead & Groff at the Mitchell Fair grounds. The offerings were last spring's bred gilts. As a whole, the sale was made up of a good class of hogs. They had strong bone, good symmetry, and plenty of size. All hogs sold were pure bred, but only about one-third of the fifty sold could be registered. The sale was topped by a registered gilt that sold for $55.00. The registered gilts sold for an average of $42.50 and the unregistered gilts for $15.00 each. There was but little, if any, difference in the individuality of the registered and unregistered gilts. The prices paid indicate that the farmers are wanting to raise registered hogs.

Whitehead & Groff are among the largest and most successful swine growers on the Project. While they sell a good many hogs for breeding purposes, their chief source of income from the swine business, is by selling fat hogs. They have recently shipped in from the eastern part of the State, two good registered Duroc Jersey males.

Last June, 500 shoats in their herd, were very successfully treated for worms. The treatment given was 5 grains santonin and 5 grains of calomel per shoat. The cost of treatment at that time was about 4¢ per pig. At the present time, on account of the advanced price of santonin, the cost would be about 6½¢ per pig.

Last summer the above treatment was given with excellent results to quite a number of herds affected with worms. In giving treatment for worms, it is very important that the shoats be kept off feed for from 18 to 24 hours before treatment, and that each pig gets his proper allowance of the medicine.

A farmer at Mitchell, was recently very much interested in shipping in some Chester White hogs. This was advised against, however, as the white hogs "sun blister" very easily on the project, and also because the standardization of hog breeds is being worked for. Later this farmer bought a number of the best Duroc Jersey gilts sold at Whitehead & Groff's sale.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued).

Another farmer who has recently gone into the pure bred hog business is purchasing his stock, bred sows, at sales held in the eastern part of the state. He was recently furnished with plans for a number of individual farrowing houses.

Arrangements have been made with the county fair association for a pig club exhibit at the county fair next fall.

Two carloads of Holestein cattle were recently imported from Minnesota to Scottsbluff, where they were to be sold at auction to farmers. On their arrival at Scottsbluff it was learned that the cattle were not accompanied by the required bills of health and so they were placed in quarantine.

During the month of February, 56 cars of fat hogs were shipped from the valley to Denver. The average price received during the month was $6.45 per hundred, f.o.b. valley points. The total receipts for the month was $65,016. February shipments were the largest in the history of the valley during any one month. The total receipts were also the largest ever received in a single month. The table below shows the number of cars of hogs shipped, the average prices per hundred weight f. o.b. shipping points, and the total receipts for hogs from July 1, 1914, to February 28, 1915.

Month	No. of Cars shipped	Average price per cwt.	Receipts
July	13	$ 8.45	$ 19,700.
August	14	8.50	21,620.
September	27	8.30	40,338.
October	28	6.80	34,272.
November	25	6.90	31,050.
December	28.5	6.60	33,858.
January	37	6.30	41,958.
February	56	6.45	65,016.
Eight Months ...	228.5	$ 7.24	$297,812.

It is not believed that the present low prices for hogs will materially affect the number of swine growers on the project during the coming season. Perhaps, in a few cases, low prices will cause some farmers to go out of the hog business. Generally, however, the size of the herds is being increased rather than decreased and it seems certain that the number of hogs raised on the project during 1915 will be considerably greater than in 1914. A number of farmers are taking advantage of the present low prices to stock up their farms with good animals.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.

During the week ending March 13, several calls were received regarding sick hogs. One of the reported cases was kidney trouble, one infectious sore mouth, and one a case of feeding too much molasses from the sugar factory. One case of cholera just over the range of mountains bordering on the Project was reported. The report did not come from the infected farm but from a neighbor. This report was forwarded to Dr. Freeman, Deputy State Veterinarian, who investigated. However, before he arrived the infected hogs had been sold to a Minidoka Project farmer who had removed them to his farm and from whom a call was received on Friday. This herd was vaccinated on Saturday. By this time three hogs had died. The herd was badly infected and a number of high temperatures were found.

As one of the greatest needs of the Project is the growing of some crop to balance a ration of alfalfa hay, an extra effort is being made to encourage the construction of silos. To those who will not be able to build silos this year the growth of root crops is being suggested.

MONTHLY AND WEEKLY REPORTS OF FIELD MEN.

Some of the field men have recently submitted monthly and weekly reports which are not properly labeled. Weekly reports should be labeled: "_____ Project, Report for Week Ending _____, 19__." Monthly reports should be labeled: "_____ Project, Report for the Month of _____, 19__."

It is requested that field men carefully label their reports as above indicated.

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WESTERN IRRIGATION AGRICULTURE.

AUTOMOBILE REPORTS.

Attention is again called to the necessity for sending in automobile reports promptly at the close of each month. The Secretary's office is becoming very insistent upon these reports being made promptly by the Bureau, and after the first of each month the Bureau Property Room makes frequent calls upon us for our reports.

FIELD NOTES.

Yuma.

During the week ending March 13, the maximum temperature was 77, minimum temperature 39, and greatest daily range 36. The precipitation amounted to .11 inches.

Work on the Mess Building is progressing nicely. The plumbing is installed and interior work nearly completed.

Irrigation gates were made and placed in the newly leveled lands on B.

D-38 was seeded to barley; berries on A-10-6 were pruned. A-10-8 was manured, and A-16 to 21, Date lands were cultivated. Plats C-12 to 17, figs, plat C-18, pomegranates and several nursery plats were hoed.

The fine spring weather is rapidly forcing vegetation. Early peach trees are in flower and alfalfa will soon be in bloom. A plat of rye sown last fall made good growth and has headed out. The settlers' wheat and barley sown early has the promise of a good crop.

Truckee-Carson.

During the week ending March 13, the maximum temperature was 60, minimum temperature 21.

The releveling of field "D" and of plats H-1, 2, 3, and 10 was completed.

Grain was seeded in the plats in front of the office buildings.

27 March, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Tomatoes, cabbage, pepper and egg-plants were planted in the greenhouse and hot bed. Most of the nursery stock in "B" 2 was taken out and heeled in ready for distribution. The work of pruning the orchard was completed.

Mr. Headley went to Reno Wednesday and purchased a Ford car which will be used when necessary for Government work.

Belle Fourche.

During the week ending March 20, the maximum temperature was 42, minimum temperature 12, and precipitation .06 inch.

Mr. Wentz returned to the station on the 15th, Mr. Dillman and Mr. Mathews on the 16th, and Mr. Martin on the 19th.

All of March has been cold and cloudy with occasional storms. Most of the snow still remains. No out door work is possible. Most of the time has been spent in repairing buildings and machinery.

San Antonio.

During the week ending March 20, the maximum temperature was 77, minimum temperature 29, and greatest daily range 38. The total precipitation for the week was .20 inch.

Field peas were plowed under on plat A4-11 and A4-19 and rye was plowed under on plat B6-18. A number of the rotation plats which had become compact were double disked and harrowed. Parts of fields D-3 and C-3 were double disked and harrowed to kill volunteer oats. Field peas in the orchard on field B-4 were plowed under. Orchard stakes were set in the orchard on field B-3. Soil samples were taken on a number of plats.

Mr. R. E. Blair spent the first three days of the week at the station. Trips were made to Boerne and the Medina Dam.

One acre of the three recently obtained was grubbed and partially plowed.

Huntley.

Weather conditions during part of the week have been favorable for field work and the teams have been kept at work disking and harrowing fall breaking on the dry land.

According to Mr. Mead, field man for the Billings Sugar Company, over five thousand acres of sugar beets have been

27 March, 1915.

WESTERN IRRIGATION AGRICULTURE.

Field Notes.

Huntley (continued)

contracted for on the Huntley Project up to date. In the entire Billings district over 20,000 acres have been contracted for. This is about 1,000 acres more than the total in 1914.

In the following table are given the depths to ground water in the five wells on the Worden Tract since January 1.

Date.	Depth to Water--feet.					
	Well A-1	Well A-2	Well A-3	Well B-1	Well B-2	Average.
Jan. 1, 1915	3.47	3.69	3.86	3.88	3.95	3.77
Jan.15, 1915	3.55	3.86	4.02	3.99	4.06	3.89
Feb. 1, 1915	3.43	3.59	3.72	3.54	4.35	3.72
Feb.15, 1915	3.31	3.56	3.80	3.78	3.89	3.67
Mar. 1, 1915	2.61	2.97	3.50	3.14	2.88	3.02
Mar.15, 1915	2.07	2.52	3.28	3.11	3.34	2.86

Messrs. Knorr and Morgan returned from Washington on the 19th.

27 March, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Boise.

One of the first things which will be taken up in the demonstration work on the Boise project will be the matter of organizing the farmers for protection against hog cholera. There are at present no known cases of cholera on the project, but a bad outbreak occurred in 1913 and one less severe in 1914. It is planned now to have the farmers organize for effective control of the disease should it occur again.

Mr. Ireland is maing arrangements for making a complete survey of the project. Some of the information obtained in this survey will be used in connection with the hog cholera protective work and the remainder will be used in planning and prosecuting other definite campaigns.

In order to secure the latest information as to methods of procedure in hog cholera work, Mr. Ireland will spend a week on the Minidoka project with Mr. Rinehart and at Twin Falls with Dr. Sullivan, who has charge of the Federal hog cholera eradication district, with headquarters at Twin Falls.

Huntley.

A map has recently been completed showing the distribution of dairy cattle on the Huntley project during 1914.

On March 11, a farmers' institute meeting was held at the town of Osborn. Dr. Hartman, of the Montana Agricultural College, spoke on livestock diseases; Mr. Cook, of Bozeman, spoke on potato culture, and Mr. O. M. Rice, of Sedan, Montana, spoke on the subject of cooperation. Mr. Christopher briefly discussed the demonstration work. Approximately 100 farmers were in attendance at the meeting.

Minidoka.

During the week ending March 20, an article dealing with the silo question was published in the local papers of the project. It is pointed out in this article that the number of silos in the State of Idaho has increased from 2 in 1910 to 134 in 1914 and that since 1913, 24 silos have been built on the Twin Falls tract.

It is also pointed out that one farmer in the Boise valley usually secures a yield of 18 tons per acre of silage corn and that one on the Twin Falls tract in 1913 secured a yield of 19-3/4 tons per acre of well-matured corn silage. At St. Anthony, in

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

the Upper Snake River Valley, where the elevation is about 5,000 feet, one farmer has secured an average of 13 tons of silage per are each year during the last 4 years.

North Platte.

THE PRICE OF HOGS AT OMAHA.

Mr. Jones has secured a report showing the average price of hogs on the Omaha market each month of the 19-year period ending December 31, 1914. The detailed figures, showing the average prices per hundred pounds of live weight, are given in the following table, in which the highest average monthly price for each year is underlined:

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Mean
1914	8.04	8.34	8.42	8.18	8.19	8.00	8.51	8.64	8.78	7.29	7.43	6.89	8.06
1913	8.24	7.84	8.60	8.69	8.30	8.41	8.73	8.02	7.96	7.87	7.61	7.48	8.15
1912	6.02	6.02	6.73	7.61	7.47	7.35	7.31	8.08	8.38	8.50	7.73	7.26	7.37
1911	7.71	7.14	6.59	5.97	5.77	5.96	6.38	7.10	6.73	6.28	6.18	5.98	6.48
1910	5.90	8.63	10.25	9.62	9.27	9.22	8.40	8.21	8.77	8.37	7.50	7.50	8.47
1909	8.29	6.10	6.47	6.90	6.98	7.46	7.70	7.57	7.92	7.59	7.86	8.16	7.42
1908	4.23	3.97	4.66	5.58	5.31	5.56	6.26	6.37	6.70	5.80	5.67	5.48	5.47
1907	6.47	6.85	6.50	6.39	6.18	5.70	5.83	5.76	5.84	5.85	4.77	4.46	5.88
1906	5.26	5.80	8.16	6.34	6.27	6.34	6.50	5.96	6.01	6.21	6.04	6.17	6.26
1905	4.38	4.73	5.14	5.25	5.20	5.19	5.44	5.83	5.31	5.06	4.75	4.89	5.10
1904	4.72	5.05	5.09	4.86	4.38	4.89	5.11	5.06	5.55	3.75	4.71	4.44	4.80
1903	6.49	6.83	7.20	7.13	6.32	5.85	5.27	5.20	5.60	5.27	4.33	4.42	5.83
1902	6.12	5.94	6.12	6.85	6.79	7.33	7.67	7.06	7.44	7.18	6.28	6.17	6.75
1901	5.13	5.28	5.16	5.84	5.68	5.84	5.71	5.84	6.25	6.20	5.71	6.14	5.73
1900	4.47	4.73	4.84	5.36	5.10	4.97	5.03	5.04	5.14	5.16	4.73	4.79	4.95
1899	3.55	3.61	3.59	3.83	3.61	3.63	3.92	4.35	4.47	4.22	3.92	3.96	3.89
1898	3.56	3.79	3.74	3.76	4.12	3.83	3.76	3.73	3.68	3.74	3.40	3.36	3.71
1897	3.23	3.31	3.76	3.86	3.43	3.26	3.13	3.68	3.76	3.56	3.35	3.25	3.47
1896	3.71	3.88	3.64	3.42	3.12	2.98	2.92	2.82	2.81	3.16	3.10	3.17	3.23
Mean	5.56	5.67	6.03	6.08	5.87	5.87	5.98	6.02	6.16	5.80	5 53	5.47	5.88

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

The Price of Hogs at Omaha (continued)

The above table shows that the mean price of hogs on the Omaha market from January 1, 1896 to December 31, 1914, was $5.88. As shown in the last column at the right, the mean annual price has risen very markedly, though not constantly, during the 19-year period. If the period is divided into four shorter periods, the marked upward tendency of prices is more clearly shown:

4 years, 1896-9, mean price, ...	$ 3.57
5 years, 1900-4, mean price, ...	$ 5.61
5 years, 1905-9, mean price, ...	$ 6.02
5 years, 1910-14, mean price, ...	$ 7.71

From the table, it will be noted that the highest average price paid for hogs occurred in September, 5 times; March, 3 times; July, April, January, and February, each 2 times; May, August, and October, each once. At no time during the nineteen years was the average price paid for hogs highest during June, November or December. The averages by months for the nineteen years are as follows: September, $6.16; April, $6.08; March, $6.03; August, $6.02; July, $5.98; June, $5.87; May, $5.87; October, $5.80; February, $5.67; January, $5.56; November, $5.53, and December, $5.47. The mean for November, December, January and February is $5.56 and that for June, July, August and September is $6.01.

From this report it appears that ordinarily the best time to market hogs is during the early spring months or during the late summer months, preferably in September. However, if the hogs are marketed in early spring, it is impossible to make the best use of summer pasture. On the other hand, if they are marketed in the late summer or early fall months, it is possible to make a maximum use of summer pasture, which will result in very economical gains and greater profits.

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WESTERN IRRIGATION AGRICULTURE.

VOUCHERS.

Vouchers covering items of labor employed by the hour should state the number of hours employed on each day, and this employment should in no case exceed eight hours in any one day.

FIELD NOTES.

Truckee-Carson.

During the week ending March 20, the maximum temperature was 70, minimum temperature 22.

A cooperative gypsum experiment has been begun on the farm of L. W. Lattin. Five checks were selected, which were known to be unproductive. Samples of soils were taken from plats 2 and 4 for analysis. Soluble salts were found present as follows:

	Plat 2		Plat 4	
	1st Foot	2nd Foot	1st Foot	2nd Foot
	Per Cent		Per Cent	
Na_2CO_3	.053	.032	.042	.042
$NaHCO_3$	.033	.033	.075	.058
NaCl	.012	.012	.047	.070
Na_2SO_4	.000	.000	.310	.340
Total by titration	.098	.077	.474	.510

Plats 2 and 4 had an area of .2 and .3 acres respectively and contained approximately 1080 pounds and 2140 pounds sodium carbonate (bicarbonate included) in the upper two feet. To neutralize this black alkali 1400 pounds of gypsum was added to plat 2 and 2800 pounds to plat 4.

All of field "D" was treated with gypsum at the rate of 1½ tons per acre.

The work of cleaning the irrigation ditches was completed. One man worked through the week making irrigation boxes.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Plats A-1 and 2 were releveled.

Messrs. Cline and Headley spent several days visiting the schools of the project for the purpose of organizing Boy's and Girl's gardening and live stock clubs.

Scottsbluff.

The greater part of the week ending March 20 was very stormy. Manure was hauled whenever possible. A portion of the time the wind was so high that the manure spreader could not be used to advantage.

A new feed rack was built for the cows, and the corral was divided so as to make a yard for the calves.

The Sugar Factory has granted practically all the acreage for beets that the growers have signed up. Early indications were that all of the larger growers would be cut on the acreage. The entire amount signed to date is a little over 30,000 acres. The plans are to send the beets from 10,000 acres to the Colorado factories, as the capacity of the local plant isnot sufficient to take care of the entire acreage. Last year the beets from little over 5,000 acres were sent to the Sterling factory in Colorado.

The first two days of the week ending March 27 were spent in hauling manure, and a good cleaning up about the hog yard was started. On Wednesday a heavy snow storm and high wind stopped all operations.

This is the first year since we began operations here that we have not been able to do any farm work previous to April 1.

Although we have had considerable snow during the winter Mr. Weiss reports that there is avery light snow fall in the mountains and a scarcity of water in the river is looked for.

Huntley.

During the week ending March 27, the maximum temperature was 55, minimum temperature 11, and precipitation .38 inch.

Weather conditions have been favorable for doing field work on only two days during the week. The dry land tract that was broken up last fall has been disked and harrowed and this tract

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued)

has been fenced. All of the fall plowed irrigated land was harrowed.

Belle Fourche.

During the week ending March 27, the maximum temperature was 50, minimum temperature 4, and precipitation .09 inch.

There is still considerable snow left in places and no field work has been done. The men have been employed repairing machinery, clipping horses, and filling the cistern.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Huntley.

During the week ending March 27, the work of making a survey of the project was started. Nine farms were visited on Monday and Tuesday. Survey cards are being filled out for each farm unit visited whenever an interview of sufficient length can be secured.

Rain started to fall Tuesday afternoon about 3.30, and snow fell during the night. Wednesday and Thursday were stormy disagreeable days. The weather was fair on Friday and Saturday but the roads were so heavy as to render field work inadvisable. Office work consisting of making a project map showing the distribution of hogs on the project was performed.

North Platte.

During the week ending March 13, Briggs & Sons' Duroc Jersey hog sale held at Clay Center, Nebraska, was topped by a bred gilt purchased for $120.00 by J. W. Hall, a new hog

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

breeder on the project. The second highest priced gilt sold brought $102.50 and was bought by Whitehead & Groff, project hog breeders, who also bought another bred sow and a boar at the sale.

Other farmers that have recently shipped in bred Duroc Jersey sows, are W. B. Buckingham, Morrill, 4 sows; Richardson & Andrews, Scottsbluff, 20 sows; and Finnigan Bros., Scottsbluff, 4 sows.

At a meeting of the Water Users' Association last week a talk was given on Hog Cholera and Vaccination. In this talk the principles of the single and the simultaneous treatments were explained. In the discussion that followed the talk it was brought out that those present were in favor of continuing the single treatment for cholera on the project.

With the exception of one small outbreak of cholera in a herd of three hogs near Minatare, the disease has not made its appearance in any herds during the past 5 weeks, which indicates that the hog cholera control work during the past months has been effective. At this time last year there were quite a number of herds affected with the disease.

Recently a call was received from a farmer who reported sickness among his hogs. The sick hogs had been separated from the well animals but no losses had occurred. After a careful investigation, it was found that the trouble was caused by feeding too much sugar beet syrup. The syrup was withheld and the sick hogs got well again.

The feeding of sugar beets syrup has caused considerable trouble and in some cases heavy losses have occurred. In some instances it is believed that the trouble was caused by feeding too much syrup and in other cases it is probable that the syrup contained some poisonous substance. From observations made of the feeding of sugar beet syrup it appears that it should be fed to hogs very cautiously.

One farmer near Scottsbluff has been feeding hotel garbage to his hogs. Last summer he had considerable loss among his

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

hogs which was very probably due to feeding too much of the garbage and perhaps to ptomaine poisening as the garbage was fed without being cooked. He is still feeding garbage but in smaller amounts and is having excellent results. Unless the garbage is cooked during the summer, however, he will probably have losses again. He has been advised to cook the garbage for summer feeding and will probably do so.

Tieton.

The following extracts from a letter received from Mr. Bean indicate in a general way some of the features of the present status of the dairy and swine industries on the Tieton project, particularly that section which has been visited by Mr. Bean:

"Nearly all the farmers in this section (the southwestern part of the project) are engaged in or contemplate entering dairying and hog production. Some of them have no cattle nor hogs and some have six to ten cows and two to eight brood sows. There is but little produce sold from here as yet except potatoes and eggs. A few sell cream. Some are just breaking the land, and the neighborhood is considerably broken on account of the idle land owned by speculators."

"As previously mentioned I am finding a rather general neglect of the value of manure both as to conserving and applying it. Several farmers are keeping their cattle in dry lots during the summer; some use native pasture and others pasture alfalfa. The arguments advanced for dry lot feeding are; (1) The value of the land ($40.-$80.) prohibits pasturing; (2) Bloat caused by alfalfa. Alfalfa hay is the chief feed for summer and winter, and roots are quite generally fed or will be included in this season's crop. I believe that it will be well for us to give considerable attention to mixed grass pasture. There was considerable loss last year by bloat and the present methods of lot feeding do not look very profitable. A soiling system might meet with good favor. Of course the above applies to but a

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

small part of the whole tract."

"I have found some men who are afraid of the hog business because alfalfa hay or pasture alone will not finish for market. It takes but a little grain to do the finishing but many feel that they cannot raise the barley or corn profitably and that the prices of grains will be prohibitive. We have several reports of corn crops averaged from 45 to 60 bushels per acre and I believe barley will average around 30 bushels. Of course the corn average is low but I believe the careless growers lowered it. This seems to be another circumstance which may well be studied. Dairying receives almost universal support in the section which I have covered and the resulting skim milk with alfalfa pasture certainly spells "pigs". The only question which has been raised has to do with fattening them for market. Some few grow their own corn and some even plan to buy the necessary grain."

"Mr. Stone, a lumber merchant who has been on his farm about two years and who has a fair herd of mixed dairy cattle, has ordered a Babcock tester and asked me to start him out with it. He will probably buy a milk scales and keep complete records. This man is a fine member of the community and is especially anxious to work with us."

"Several farmers are intending to buy dairy cattle this fall. I suppose they are waiting until then so as to use the money from their crops. The general sentiment is to buy good animals and few of them. There will undoubtedly be work in this regard in the fall. Theletter, "Suggestions Regarding the Bringing of Dairy Cattle to the Reclamation Projects", will undoubtedly be of service when the time comes for there is a local scarcity of good cow for sale."

Truckee-Carson.

During the month of February the Churchill County Creamery purchased 14,887 pounds of butterfat. The average price for the month was 28.3¢.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued)

Forty-three head of registered Holstein cattle have been recently added to the dairy industry of the Truckee-Carson Project, including three very fine bulls to head grade Holstein herds, twenty females of producing age, and twenty young bulls and heifers. These animals were brought to the project from Golconda at Mr. Cline's suggestion, and leased to farmers on the project. The herd had been tested for tuberculosis, and their history indicates that they are free from contageous abortion. The blood of these animals is sure to add very materially to the future production of the dairy herds of the project. It is necessary at the present time to stock up this Project with cattle from other parts of this state or California because of the quarantine against the foot and mouth disease. So long as this quarantine is in effect the increase in the cow population will be very materially affectod.

The sentiment in favor of dairying is rapidly growing, and funds have been made available through the local creamery for the purchase of cattle. It remains only to find satisfactory animals at prices in keeping with quality.

The chances for the raising of the present quarantine against foot and mouth disease are not very favorable. There will probably be a big surplus of dairy cattle for sale in the dairy districts of the Mississippi Valley where the foot and mouth disease situation is cleared up, and all prospective buyers who wait until that time to purchase foundation herds will probably find it to their advantage, both as regards quality of animals and price.

The Division of Publications has been requested to mail to each of the water users on the project a copy of Farmers' Bulletin No. 637, The Grasshopper Problem and Alfalfa Culture.

Umatilla.

Under date of March 31, a two page circular letter making suggestions regarding the irrigation of sandy soils on the Umatilla project was mailed to the water users. The suggestions were based on results secured at the Umatilla Experiment Farm.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.

In an effort to produce cheaper pork, a number of farmers on the project are planning to plant various kinds of crops. Many will sow oats and peas for hogging off purposes while some will sow field peas to be harvested and fed from the stack. Several different varieties of peas will be used for these purposes and cooperative records of the cost of swine production will be kept.

Mr. Roberts of Rupert is now keeping records not only of his dairy herd but of all farm operations as well. The various crops will be carefully studied as to cost of production and actual value for feeding or as cash crops. The cost of raising hogs will also be determined.

Four varieties of peas and three varieties of corn recommended by the Idaho Experiment Station for this section have been secured and will be given out to different farmers to check the results with the varieties already in use on the project.

Boise.

The season is much farther advanced for the date than usual in this part of Idaho. Farmers are well along with their work, the greater part of the spring grain seeding being already done and many fields looking fine. The winter has been severe in that there was an unusually long cold period in the early winter, which, in connection with an unusual lack of fall and winter precipitation caused a loss of a large per cent of clover. This means that there will be a reduction in the yield of clover seed and hay this year and an increase in wheat and corn acreages. Because of the relative shortage of hay there will be a good number of silos built, from present indications. The spring has been perfect but there is still a very low soil moisture content.

There is much interest on the project in an increase of the livestock on most farms. A number of farmers have been importing calves of the dairy breeds from the dairy sections of the coast states within the past few months. These calves are from the sections where most of the milk is sold to condenseries

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

or cheese factories and are only a few days old when brought in. They can be bought, freight or express paid, from $6.00 to $7.00 per head. Most of the claves that have been brought in are bulls and go to farmers who are selling cream and so have considerable skim milk, but a few heifers are imported as well. The heifers are rather an uncertainty from the standpoint of breeding, and disappointment is likely to result unless someone can go from here to select those from the best herds and by good sires. Too many cows of low production have already been brought into this state and dairy interests suffer from such importations.

A visit was made to the Twin Falls Tract this week for the purpose of studying the methods of hog cholera control used by the federal veterinarians there. It is planned to establish a demonstration district on the project in cooperation with the Agriculturist for Canyon County in a section where cholera has been extremely bad within the past year. Data were collected from the federal men and definite plans will be laid as soon as possible for the work here. Though there has been no cholera on the project for several months it is not unlikely that it will appear as the weather becomes warmer and the work of control will be begun as soon as possible. The plan will be outlined in future reports and results will be given.

The listing of land-holders of the project has just been completed. This list, taken from the files of the secretary of the Water Users' Association, includes 1744 names of land owners on the project. Many of these are not resident upon the project while there are many tenants whose names do not appear on the list.

LOCAL CREAMERIES AND CENTRALIZERS.

An article appearing in "The Nebraska Farmer" for March 24, 1915, written by a man in Wisconsin, contains some interesting

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Local Creameries and Centralizers (continued)

statements regarding local creameries and centralizers.

The author points out that each kind of creamery has its own proper field. In this connection he says: "The most essential difference between centralizer territory and the territory of local creameries is in the number of cows to the square mile. Where cooperative creameries thrive there are many cows to the square mile, while only a few cows to the square mile are found where the centralized creameries are most strongly developed. In Wisconsin, Minnesota, and Iowa are 107 counties, covering more than 62,000 square miles, that have an average of 37 cows to the square mile. We find in this so-called strictly dairy region the highest percentage of cooperative creameries and the lowest proportion of butter made by the centralizers. Here also the price received by the farmers for butterfat is the highest. On the other hand, the 756,000 square miles constituting, for the greater part, the centralizer territory of these north central states average less than 13 cows to the square mile, or only one-third as many as in the above mentioned dairy region."

Further, regarding the distinct fields of the two classes of creameries, the author says: "In the United States there are about 5,000 creameries. Fully 300 centralizer creameries are making close to one-half of the total annual production of 650,000,000 or more pounds of creamery butter. These centralized creameries are distributed from coast to coast and Minnesota to Texas. Within the regions of the greatest density of cow population centralized creameries are relatively unimportant, because the farmers and dairymen there are manufacturing butter cooperatively, but in the territory of relatively low cow population centralized creameries thrive; the farmers keep at least a sufficient number of cows to be interested in the sale of cream for butter making and in the absence of local creameries the cream must be shipped to central plants. The local creamery is not a success except in restricted areas where the cow population is very dense. In the greater part of the United States the number of cows to the square mile is relatively low. Consequently the centralized creamery is an essential institution.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

Local Creameries and Centralizers (continued)

It performs services that can be given in no other way and for years to come it will continue to be a necessity. There can be no argument against centralizers as a creamery type."

DAIRY CATTLE IMPROVEMENT.

The Wisconsin Experiment Station has been requested to send to each of the field men of this office a copy of Wisconsin bulletin No. 189, "Community Breeders' Associations for Dairy Cattle Improvement." This bulletin contains numerous suggestions which will be of interest and value to the field men in connection with community breeders' associations.

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WESTERN IRRIGATION AGRICULTURE.

CAMERAS.

Paragraph 28 of the Fiscal Regulations has been amended, by Secretary's Order No. 128, dated March 31, as follows:

""ALL REQUISITIONS for the purchase of supplies, or for job work, in EXCESS OF $100 must be APPROVED BY THE SECRETARY, except in case of the Weather Bureau and the Forest Service, which may issue requisitions for amounts not exceeding $500; but NO AUTOMOBILES, motor boats, OR other motor-driven vehicles, no CAMERAS or LENSES, and no MEDICINES for personal use (see paragraph 78, section m), shall be PURCHASED WITHOUT SPECIFIC AUTHORITY of the Secretary."

The object of this amendment is to require that, on and after April 1, 1915, the approval of the Secretary shall be secured for the purchase of all cameras and lenses."

FIELD NOTES.

Scottsbluff.

During the week ending April 3 manure was hauled with one team.

Two men were kept busy fixing fences and building a corral for the bull.

A foundation was made for a milk house, this will be a small structure only 8x12 inside measurement.

All of the plats for the spring wheat on the dry land were plowed, the soil being to wet to do any other farm work.

Messrs. Holden and Jacobson reported for work March 31.

Dairy Report for March.

The four Holstein grade cows that were purchased in February, and added to the dairy herd February 16, 1915, have calved. Indications are that all of them will make good cows.

All of these Holstein cows have had heifer calves, one calf, however, died before it was able to get up, the cause of the death we could not determine.

As soon as the weather clears up so that we are able to photograph these animals, the names and the pictures will be sent to the office, this may be of help when looking over the results.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff. (continued)

Name of cow	Milk	Average test	Total fat	Value of fat	Feed consumed			
					Hay.		Concentrates	
	pounds		pounds		pounds	Value	pounds	Value
Stella.....	....	.....	....	....	876	$2.19	....	...
Rose.....	765.2	3.3	25.25	$5.80	876	2.19	248	$3.72
Wonder.....	759.1	4.3	32.64	7.50	876	2.19	222	3.33
Mabel.....	224.6	2.6	5.84	1.34	876	2.19	152	2.28
Marie.....	274.3	2.2	6.03	1.47	876	2.19	172	2.58
Beauty.....	151.2	3.4	5.14	1.18	876	2.19	142	2.13
Maud.....	....	.....	....	....	876	2.19	50	.75

The last four named cows are the Holstein grades. We began to use Mabel's milk March 25, Marie's March 20, and Beauty's March 25.

Hay is figured at $5.00 per ton, concentrates at $1.50 per cwt. Butterfat for the month was an average of 23 cents.

On account of the high price of grain the concentrates will have to be cut down materially in order to put the cows on a paying basis. It will be noted that Rose, a Shorthorn-Holstein-Hereford, although a fresh cow did not pay for her feed by 10 cents.

Yuma.

During the week ending March 20, maximum temperature was 87, minimum temperature 40, and greatest daily range 44.

The following plants were received from the S.P.I. office:

80 - #36813 Dodonaea viscosa
10 - #36713 Eugenia tomentosa
40 - #37026 Eugenia uniflora

Leveling on pasture lands B-39 to 45 was finished, and is being continued on B-1 to 5.

Date lands A-16 to 21, pecans on F-1 and eucalyptus on Roads 9 and 10 were hoed.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (Continued)

A-1 and 2, sorghum lands, and various nursery plats were cultivated.

Mr. Balir returned from Washington on the 19th.

Belle Fourche.

During the week ending April 3, maximum temperature was 52, minimum temperature 20, and precipitation .04 inch.

No field work was done during this week.

Men were employed repairing buildings and machinery.

San Antonio.

During the week ending March 27, maximum temperature was 84, minimum temperature 24.5, and greatest daily range 33. On Monday morning, March 22, a minimum of 24.5° was recorded. This freeze resulted in much damage to crops in the region. All tender garden and field crops were frozen to the ground and practically all fruit set was killed.

All milo, sorghum for forage, and sudan grass on the rotation plats were planted. All corn plats in the rotation experiments were cultivated for the first time. After cultivation, all the plats were replanted, the new rows being planted to the side of the original rows. It was not possible to tell whether the stand from the original planting would be satisfactory and the second planting will be plowed out should the stand from the original planting be sufficiently thick.

Field pea hay from plat A4-15 was hauled in, the yield of field cured hay being at the rate of 2888 pounds per acre. This plat was then plowed and harrowed and made ready for planting to sorghum.

Soil samples were taken on a large number of the rotation plats.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson.

During the week ending March 27, maximum temperature 74, and minimum temperature 25.

Gypsum was spread at the rate of 4 tons per acre on plats H-24 to 29 inclusive.

The old irrigation boxes which were leaking or otherwise inefficient, were moved and replaced by new ones.

Trees were furnished by the Experiment Farm for the planting of the school grounds of the three districts, St. Clair, Harmon and Island. The Harmon district has leveled 10 acres of land ready for irrigation. About 2 acres were planted to trees to form a "Picnic Grove." At the suggestion of Mr. Headley one acre was reserved for a sort of botanical garden for trees and shrubs, where 2 or 3 specimens of every variety obtainable will be planted. This will make a good place for the testing of some of the ornamentals introduced by the office of Foreign Seed and Plant Introduction.

All of the plant importations and nursery stock have been removed from B-2. The S.P.I. importations were transplanted to A-1 and the nursery stock will be replanted in a new plat to be known as B-3.

Plats E-4 to 8 were releveled.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Huntley.

Work during the week ending April 3 consisted of the necessary office work and field work. On Monday, March 29, a conference was held with Messrs. Mink, Skaggs, Hackney, and Logan regarding silos. Nothing definite was decided.

Dairy record sheets were supplied to four farmers near Huntley, and to one near Ballantine, and arrangements were made to make monthly tests on the cows owned by them.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley (continued)

Eleven regular farm visits were made during the week.

Boise.

Mr. Ireland's report for week ending April 3, is as follows:

On returning to Caldwell from Twin Falls on Sunday morning a call was found from Greenleaf, signed by A. L. Wilson, stating that hog cholera was reported on the farm of H. H. Cross of Greenleaf. With W. T. McCall, County Agent, a visit was made to the farm and distinct symptoms of the disease were found. Five hogs had died and others were apparently in very nad condition. The case had been reported to a veterinarian a week earlier and a small amount of serum had been used although at that time there was not sufficient evidence that the trouble was cholera to warrant a quarantine; at least no quarantine was put on the farm. Post mortem examination of a hog which showed a high temperature revealed pronounced and typical lesions of the cholera and the farm was quarantined by a deputy state veterinarian who was notified. Two days later the herd was revaccinated but the disease had progressed to such an extent that there will probably be considerable loss. Temperatures were taken of every animal treated and a record kept of all work so that results may be checked. Mr. Cross was instructed to clean and disinfect his pens and fences and promised to do so as well as burn all carcasses. He has killed animals in which the disease was well advanced.

Meetings have been arranged at Greenleaf, Fair Acres, Wilder and Fargo to perfect, if possible, organizations of the district for the control of cholera. The assistance of Dr. W. A. Sullivan from Twin Falls who is in charge of the cholera control work there, was requested for this organization but he will not be able to be here so a request was sent in for Mr. Rinehart who is expected to assist with the work. These meetings will be held on the seventh, eight, ninth and tenth of April.

Following a suggestion from Mr. Rinehart it has been arranged to have a number of farmers plant small, experimental plats of peas for hog pasture or feed this year. On account of the present high prices of grain and other feed and the necessity of securing new feed as early as possible the plan has met with rather general

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

approval and six men have purchased from 90 to 500 pounds of seed for the purpose of testing the crop in different ways. Two of these farmers are not on the project. Very good results are reported from other sections from "Hogging off" peas and it is believed as good results can be secured here. Some work with corn along the same lines will be attempted later.

Shoshone.

A local paper contains a report of the Powell Cooperative Creamery, in which it is stated that during the six months beginning September 1, 1914, the creamery purchased from farmers 40,666 pounds of butterfat at an average price of 27.78 cents per pound. During the same period the creamery manufactured 49,976 pounds of butter, at an average cost of 27.59 cents per pound. The percentage of over-run was 22.9. Of the butter manufactured, 39,956 pounds was sold to outside customers, 5,364 pounds to Powell customers, and 3,347 pounds to creamery patrons.

From the above figures it can be seen that during the past six months the creamery has purchased about $12,000 worth of butterfat, or an average of $2,000 worth per month.

The report states that the creamery is capitalized at $3,500 and that the net profits during the six months' period reported amounted to $406.

Tieton.

During the past week nearly all the time was spent in visiting farms on the project. The survey work was rather slow, due partly to the fact that many of the farmers were in town delivering potatoes and to the fact that a sale which was held in the Athanum valley took many farmers away from their farms for the day.

Preliminary arrangements have been made for two milk-testing demonstrations in two communities on the newly settled part of the project. It is probable that in each case several farmers

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

will buy testers cooperatively. One machine has already been ordered.

There is great interest in these same communities in the matter of suitable pasture grasses. Several farmers are planning to plant pastures this spring but do not know what seeds to use. A letter received from Mr. Severance, of Pullman, suggests meadow fescue, orchard grass, perennial rye grass, and white clover. Excellent growths of orchard grass have been found on the project, especially in combination with alfalfa, equal parts. This has been used for pasture as well as for hay and there have been no cases of bloat. White clover grows well here but as yet no one has been found who has grown fescue or rye grass. Brome grass has been tried several times but without success.

The Portland Union Stock Yards Company is supplying grade brood sows, bred to purebred boars and immunized against hog cholera, to the boys' clubs of the State. Inquiries are now being made on the project as to the interest among farmers in this plan. The sows will sell for from $15 to $25 according to size and condition. The terms of sale are 10 months' time at 6% interest, a negotiable note to be signed by the boy buying the sow and by his father or guardian.

Minidoka.

In an article on the subject of silos, written by Mr. Rinehart and published in the local papers during the week ending April 3, the following statements occur:

"Of 38 inquiries from farmers on the project during the past week 17 were on the problems of building silos and feeding silage. Of these 17 farmers, 16 are contemplating silos this year or next while one believes that the silo is not necessary and will not be profitable here. Six of the inquiries are from men who have used the silo elsewhere and four from men who have never seen a silo. Of the number inquiring four were dairymen, two sheepmen, one cattleman and ten general farmers who contemplate keeping and feeding more livestock."

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

"A survey made in Canyon county a year ago showed that there were 27 silos then in use. Of this number 11 were concrete, 10 stave, 2 pit, 2 modified Wisconsin, and 1 a combination of wood and concrete, and 1 was of 2x4's laid horizontally. Of these silos, 18 had been built on the farms, while 9 were commercial makes. Each silo owner in Canyon county was given two questions which he answered over his signature. These were as follows: 'Do you consider the silo a good investment?' and 'How long, in your estimation, will it take a silo to pay for itself?' All the answers to the first were in the affirmative and the answer to the second in almost every case was 'two years.'"

North Platte.

Mr. Knorr, who is spending a part of his time on demonstration work in crop production, reports that he answered 21 calls during the month of March and states that the amount of work done was greatly reduced by unfavorable weather and the bad condition of the roads.

During the month three meetings were attended, at which the total attendance was 265.

The local sugar factory, during the past winter, has made a trial with an underground silo filled with beet tops. The silo is about 100 feet long, 30 feet wide and 6 feet deep. In the fall of 1914, 700 tons of tops were placed in the silo. The tops were covered with straw. On a recent visit Mr. Knorr found that the upper four inches of silage was practically spoiled; the next five inches was partially spoiled, and the remainder was in excellent condition. From the experience gained last winter the sugar factory people plan to make the silo narrower next year and to have the sides perpendicular instead of sloping. It has been found that the sloping sides prevent the silage from settling properly. No definite information has yet been secured regarding the feeding value of this silage.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

AN IDAHO SWINE BREEDERS' ASSOCIATION.

The following is a summary of a report recently submitted by Mr. Rinehart, relative to the Richfield, Idaho, Berkshire Breeders' Association. This association is succeeding under conditions which are very similar to those on a number of reclamation projects in the Northwest, and for this reason a brief statement of some of the methods pursued by the association should be of interest to our field men.

The Richfield irrigation tract is comparatively new, practically all the development work having been done since 1910. As is usually the case on new irrigated tracts, the livestock brought in at first by the settlers on the Richfield tract was generally inferior, and contained a mixture of many breeds. This was particularly true in the case of hogs.

In 1912 three farmers on the tract decided to improve their hogs. After some study and correspondence they decided upon the Berkshire breed. During the summer of 1912 they imported two boars and seven sows. In the spring of 1913 it was found that the pure bred pigs as well as the pigs from the pure bred boars and the native sows were so far superior to any others produced in that locality as to arouse favorable comment. Several farmers, who previously had given the matter but little attention decided to improve their herds.

The local manager of the irrigation company became interested in the proposed improvement and offered to advance the funds necessary to secure breeding stock. The irrigation company, the three original breeders and the local newspaper cooperated in advertising this proposal and suggested that half a carload of registered Berkshires be imported. It was requested that all farmers interested should place their orders for pure bred hogs. So many orders came in that it was decided that a full carload of hogs could be used. Some farmers preferred other breeds than the Berkshire but, after consultation with the State university livestock people, it was agreed that only Berkshires would be brought in.

Following some correspondence with the State university and the Berkshire Registry Association, a meeting was held and a local farmer was selected to go East and buy the desired stock. This farmer finnaly purchased and brought to the tract from Illinois 119 pure bred Berkshire gilts, costing $25 each, and

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An Idaho Swine Breeders' Association (continued)

15 pure bred Berkshire boar pigs, costing $25 each, the total cost of the stock purchased being $3350. The irrigation company advanced the necessary money and later collected from the farmers after the hogs were delivered.

When the hogs arrived, all the farmers who expected to participate in the importation met and the hogs were distributed by lot. The order of selection was decided by numbers drawn from a hat and the number of hogs each farmer was to buy, the selection being based on the proportion that each farmer's hogs would bear to the entire number of hogs. For example, one farmer would select 2 hogs, another 4, another 10, and another 1, these numbers being based on the ratio of each farmers hogs to the total number. This method of selection was repeated until the entire number of hogs had been selected. The method proved entirely satisfactory to all concerned.

Each man paid cash, or a note cashed by the irrigation company, as soon as the pigs were received. (The character of these notes was not reported).

The pigs arrived in September, 1913. They were distributed among 10 farmers and the irrigation company. The gilts were bred so as to farrow in the spring of 1914.

In January, 1914, a meeting was called in order to form an organization. It was decided to organize a breeders' association and to transact all business through the association officers. A constitution and set of by-laws were adopted and officers were elected.

The officers consist of a president, secretary, treasurer and one elected director. These constitute the board of directors. Each member of the association is entitled to one vote for each registered Berkshire sow retained in his herd for breeding purposes, and which shall have been on record 30 days prior to the date of the annual election. The board of directors is the executive body of the association and manages and directs all of the association's affairs. Regular meetings are held the last Saturday of each month.

It was decided to advertise the young stock which was for sale and to pay the expenses of advertising by an assessment of $3 for each brood sow. The irrigation company advanced $300 to cover the immediate expenses of advertising.

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An Idaho Swine Breeders' Association (continued)

It was agreed that no animal which was not strickly first class would be sold for breeding stock and that orders received would be distributed as equitably as possible among the members of the association. All stock offered for sale through the association had to be passed upon by the officers. A booklet advertising the stock for sale was printed and distributed, and advertisements were inserted in the "Breeders Gazette" and the "Berkshire World". Orders cam e from all parts of the United States, some even from New England. It was found, however, that so many orders came from the Western States alone that it would be impossible to fill them, and the advertisements in the papers were discontinued. The majority of the stock disposed of was sold in Montana and Idaho. Some were shipped to California and Wyoming. After the supply of choice pigs had been exhausted it was necessary to turn down orders amounting to more than $5000.

The association is now in excellent condition and the indications are that the organization will be permanent. Mr. Rinehart states: "Since securing the pure breds the members of the association have taken pains to learn of the best types and pedigrees and the best methods of caring for their hogs. Today there is no section of the State where there are more modern hog houses or men better versed in swine production than on the Richfield tract. Types have been studied until each officer of the association is an expert judge. There is no fair in the State where there is closer competition, and where the judge must be better informed on Berkshires, than the one held at Richfield,"

Perhaps the most important point about the above is that it illustrates one way in which a small group of farmers can work together for mutual benefit. In agricultural cooperation, it is by no means always necessary for <u>all</u> the farmers in a community to cooperate in order to increase their efficiency in production and disposal. In fact, there are numerous enterprises in which small groups can work together more effectively than large ones, particularly in the early stages of cooperative activity.

One very essential point in connection with the Richfield association is that only strickly high class stock is sold for breeding purposes. The establishment and maintenance of a good reputation is one of the chief factors in the success of any cooperative enterprise.

F.D.F.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending March 27, the maximum temperature was 90, minimum temperature 40, and greatest daily range 44.

Alfalfa plats C-42 to 45 were cut. Date and deciduous orchards were furrowed for irrigation. Weeds along roads, ditches and borders are being hoed cut. Various nursery plats were cultivated and hoed.

Pasture lands B-3° to 45 were seeded to various mixtures of alfalfa, Sudan and Bermuda grass.

A fifty saw Pratt Gin was received during the week from the Continental Gin Co., Birmingham, Ala.

Ninety-nine plants representing seventy-three varieties of Chrysanthemums were received from the Washington green-house.

During spare time, leveling on B-1 to 5 is being done.

During the week ending April 3, the maximum temperature was 92, minimum temperature 44, and greatest daily range 44.

Sudan grass was sown between the alfalfa row plantings on C-42 and 43. Corn selections were planted between date rows on A-25. Alfalfa plats B-9 to 17, C-29, D-18-23 and 27 were cut.

The deciduous and fig orchards, date lands A-16 to 21 and various nursery and small plats were cultivated, also volunteer sorghum on A-1 and 2,

E-5 and 6 were plowed and C-20-23-25-26 and D-13-15 were disced.

Mr. Blair made a business trip to Los Angeles. Mr. H. R. Reed arrived the latter part of March.

Truckee-Carson.

During the week ending April 3, the maximum temperature was 74, minimum temperature 25, and precipitation .13 inch.

Gypsum was applied to plats H-24 to 39 inclusive, at the rate of 4 tons per acre.

Plats E-4-5-6-7 and 8 were releveled.

Plats H-11 and 8 were plowed.

A seed potato demonstration was given on the lawn in front of the laboratory Saturday afternoon, April 3. This was conducted in cooperation with the State Experiment Station. Dean C. S. Knight spoke on the selection of seed. Professor Lehenbauer showed potatoes affected with scab, dry rot, wet rot, internal brown rot, and stem end rot, and gave a demonstration showing how to treat for scab. Professor Frandsen talked on the eel worm

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

and showed specimens under the microscope. About 40 farmers were present.

Trees were furnished by the experiment farm for planting on the Old River and the Fernley District school grounds. Mr. Headley superintended the planting at both schools. At the Fernley school he gave a talk on tree planting on school grounds.

On the night of March 27 an illustrated lecture on "The Birds of Nevada" was given in the lecture room of the school house by Professor Frandsen of the State University.

A variety and fertilizer test of onions was planted March 30 on the farm of Geo. Burton. The varieties of onions planted were Burtons Yellow Globe, Mammoth Yellow Prizetaker, Ohio Yellow Globe, Australian Brown, Large Red Wethersfield. The fertilizers were: Potassium sulfate, ammonium sulfate, acid phosphate and a mixture of the three to make a complete fertilizer.

Umatilla.

The Oregon Agricultural Experiment Station has recently issued two bulletins written by Mr. Allen. One is No. 125, entitled, "Windbreaks, Hedges and Ornamentals for Irrigated Sandy Soils of Eastern Oregon", and the other is No. 126, entitled, "Grape Culture, with Special Reference to Commercial Production under Irrigation in Eastern Oregon."

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Minidoka.

Mr. Rinehart's report for week ending April 3, is as follows:

Two grade Duroc Jersey sows bred to a registered Duroc boar were secured for the Boys' Pig Club at Rupert and Pioneer. One weighing 240 pounds (estimated) was bought for $15. and one

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Field Notes.

Minidoka (continued)

weighing 180 (estimated) for $18., since which time the latter has had a litter of 9 pigs weighing a total of 16 pounds.

At a sale of dairy shorthorns on the Greenstreet ranch prices were very high, the average of 32 head being almost $100. each. Prices ranged from $71 to $120. This is a herd that was brought into the State in October 1913 since which time they have changed hands twice.

The range sheep wintered on the Project (estimated at 125,000) have withstood the winter well, lambing a higher percentage than usual and shearing out well. The drought of the winter has been very serious. Several range flocks that started out have been forced to return because of the absence of water at the usual watering places, while others close to the railroad have been watered from water cars transported for this purpose. Because of the warm spring the flocks are being sheared quite early, as the wool is now at its best and because, owing to the drought, it is also desirable to have the ewes sheared before being taken to the range.

On Friday a hog cholera call was received from the Pioneer School District. An investigation showed cholera to be present. The Twin Falls office was communicated with and Dr. Henderson came up on Saturday morning.

The post mortem showed a very pronounced case of cholera. Specimens were saved and the diagnosis was corroborated by Dr. Henderson. The herd was vaccinated on Saturday. Only a few high temperatures (3 out of 46) were found. Skin lesions appeared on two. Five temperatures abnormally low (below 100) were found.

The cholera was on the farm of Richard Beebe, 7 miles from Rupert. This is the first case of cholera ever known on this side of the river. The nearest place where cholera has been found is 13 miles. As to how the infection appeared is not known. Mr. Beebe, however, suspected that cholera was present and reported the trouble in time so that it is believed that this loss will be light.

The following is taken from Mr. Rinehart's monthly report for March:

"During the month boys' and girls' clubs were organized at Burley, Heyburn, Rupert and Pioneer. These four districts were carefully selected out of the 19 districts on the project, as it

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

is believed it is better to have a few active clubs than a number where the interest is not very good. The clubs will meet every two weeks, the girls' clubs being supervised by the local domestic science teachers and the boys' pig and corn clubs supervised from this office.

"Newspaper articles published in all the papers on the project during the month of March were as follows:

"Week beginning March 8, 'The Silo in Southern Idaho.'
" " " 15, 'Field Peas.'
" " " 22, 'Farm Buildings.'
" " " 29, 'The Silo for the Project.'"

The following numerical summary gives a general idea of the nature and extent of the demonstration work done during the month.

Number of farms visited,	42
Sheep farms,	8
Steer feeding farms,	2
Dairy farms,	7
Hog farms,	25
Total	42
Cholera reports investigated,	7
Number of outbreaks of cholera,	3
Number herds treated for cholera,	3
Number hogs treated for cholera,	121
Number treated hogs lost,	(not yet reported)
Number of meetings held,	10
Number of lectures,	10
Number of people at meetings,	217
Number of clubs organized,	4
Number of dipping vats planned,	1
Bulletins on special subjects sent out,	26
Requests for information and visits,	73
Number of farmers calling at office,	16

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte.

During the month of March arrangements were made with a number of farmers on the project for the carrying out of some cooperative hog feeding demonstrations during the coming summer and fall. Some of the factors which will be considered in connection with these feeding demonstrations are: the value of alfalfa pasture; the amount of grain to feed hogs on alfalfa pasture; the value of barley as a hog feed; the practicability of hogging-down barley; the use of self-feeders for fattening hogs, and the use of sugar beets as hog feed.

During the month of March corn sold on the project for about $1.40 per cwt.

Since the middle of March the Denver stock yards have been quarantined, so that the shipment of hogs from the project to Denver was stopped during the second half of the month. The freight rate to Omaha is 30.6 cents per 100 pounds, as compared with 23 cents to Denver. Because of this difference in freight rates, very few of the farmers are shipping to Omaha and it is expected that a large number of fat hogs will be ready for shipment to Denver as soon as that market reopens.

Truckee-Carson.

The registered Holstein cattle which, as noted in the Weekly Bulletin for April 3, were recently brought to the project, have been leased to a project farmer under the following terms: The herd consists of 33 females of producing age, one registered bull and 7 animals under one year of age. The lessee is to care for and feed all these animals and to get all the dairy products and 1/7 of the increase. The increase is to be divided annually. If 6/7 of the increase remains on the lessee's place after the time of division the lessee is to be reimbursed for feeding and caring for them, the terms to be agreed upon later. The calf stock included in the present herd is to be cared for and fed at the rate of 5 cents per day per head. The lease covers a period of two years and may be renewed for two years at the option of the lessee.

The pig club which is now being organized has 17 members enrolled and 12 members have joined the dairy club. The work of these clubs for the present year will terminate at the time of the opening of the State fair at Fallon next fall when an exhibit will be made and prizes awarded.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued)

During the month of March there were imported to the project 5 mature registered Holstein bulls, one registered Jersey bull, 16 registered Jersey females, 33 registered Holstein females and 6 young registered Holstein bulls, making a total of 61 registered dairy animals. The average quality of dairy stock on the project has been materially improved by the importation of these purebreds.

During the month of March the Churchill County Creamery occupied its new plant. During the month the creamery purchased 17,927 pounds of butterfat at an average price of 23.8 cents a pound, making a total of $4,266.

The following numerical summary indicates the extent of Mr. Cline's activities during the month of March:

Number of calls for assistance, ...	100
Number of farms visited, ...	44
Number of communications by letter, ...	60
Number of lectures delivered, ...	2
Attendance at meetings, ...	60
Number of herds tested for milk and butterfat	6
Number of cows tested for milk and butterfat,	75
Number of schools visited, ...	12
Number of miles traveled, ...	1108

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WESTERN IRRIGATION AGRICULTURE.

AN APPRECIATION

The Stockdale Ranch,
Stillwater, Nevada.
The Truckee-Carson Project
April 8th 1915.

Hon. David F. Houston,
Secretary of Agriculture,
Washington, D. C.

Dear Sir:

Your interesting article in "Successful Farming" magazine reminded me of a resolve made some time ago - that of thanking you on behalf of the Department of Agriculture for all it has done for me.

My family and self are "Back to the Soilers". Twenty years ago, when I first came to America, I had five years experience working as a farm hand in California, thus I knew somewhat of farm life, how to handle horses, implements, and a little about stock. Later I worked my way up from salesman to general sales-manager of one of the largest coporations doing an interstate business.

My available cash capital was $8000. Could easily have been more but was informed it was sufficient and determined to leave commercial life somewhat quickly and disliked to continue in that work after coming to a conclusion. My earning capacity was at that time over $8000. per annum.

Where should I go? What line of farming should I engage in?

The beautiful printed railway folders were quickly discarded as unreliable and I determined to consult Uncle Sam. The Chicago office of the Department of Interior first told me about the irrigation projects of which I was not well informed. I had the good fortune to meet Mr. Blanchard, statistician and he told me about the Truckee-Carson from which he had just returned. Government literature told me about its climate; all that could be grown; prevailing prices, etc. Thus the first question was somewhat easily solved.

Some agricultural bulletins were presented to me at this office and I found in them all the information needed. I secured copies of nearly all of them, had them bound arranged according to topics and studied them continuously. This was in October 1913. They are still being consulted daily.

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WESTERN IRRIGATION AGRICULTURE.

An Appreciation (continued)

From these and other literature mostly issued from your great department I concluded to go into dairy farming and raise pure bred Berkshire hogs.

I bought a 108 acre ranch with which I am well pleased January 1, 1914 and have worked according to plans made before leaving Chicago and am satisfied these plans are wise and will bring success.

On coming to the project I at once sought out Mr. Headley the manager of your experimental farm. Again I find the Agriculture Department at my elbow to see I start wisely.

I offered five acres of the best land I had for experiments before I had actually determined on the land I would purchase. My offer was accepted and five different kinds of wheat and an equal number of oats were in due time planted.

I dislike to burden you with such a long letter, yet I must tell you of the success attained. At county fair at Fallon I was awarded

First prize on wheat
" " " " sheaf
" " " oats
" " " " sheaf
" " " heifer calf (Holstein)
" " " bull "
" " " Berkshire sow
" " " " boar
Grand champion prize on boar.

The wheat was forwarded to State Fair at Reno and was awarded first prize. It weighed 64 pounds to the bushel and contained 72% of gluten - a remarkable wheat.

The State University have forwarded it to The Panama Exposition.

Success attained has been due to your Mr. Headley's conservative advice and assistance. Thanks are also due Mr. Cline, The Animal Husbandman in charge of this project who is ready at all hours to be on hand to assist. Your Department must be congratulated on the type of unassuming, well informed, interesting and interested gentlemen selected to help the farmer.

I question the propriety of my working at such length. A short concise letter of thanks might be more likely to reach you, yet I feel impelled to advise why I have much reason to be grateful to the Department of Agriculture.

Very sincerely yours,
Leonard W. Langford. (signed)

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Scottsbluff.

The forepart of the week ending April 10, was very disagreable with some rain falling during the day; the rain being just enough to keep the men out of the fields. Thursday was the first day that we could do any field work of any consequence. All of the dry land spring wheat plats were disked and harrowed, and today the wheat is being seeded on these plats. The wheat plats on the irrigated rotation plats were disked. Series 4 on field G, Series 2 and 3 field C and G, Series 2 field B and the north half of Series 6 and 7 on field D were disked and put in shape for planting. Plats No. 1, 5 and 9 field G Series 4 were planted to corn April 10th. This is the work that will include the time of corn experimenting.

Several hundred trees were set out this week along the west line of the farm. These trees were grown from cuttings made years ago.

We are building a small milk house 8'x12'. This work we are doing ourselves at odd times directly west of the cow barn.

The weather continued fair throughout the week ending April 17; the continuous winds, and very often high winds, have taken the moisture from the soil very rapidly. In order to push the work we have tried to hire an extra team or two, but this is impossible this year. It seems that everybody is several weeks behind with their work.

The wheat in the irrigated rotation field was seeded during the week. Instead of seeding the Defiance wheat, as we have done heretofore, we seeded the Galgalos. This wheat has proved a better wheat in the variety test for the past three years, and we hope it will do better in the rotations than the Defiance wheat did last year. All of the fall-plowed plats were disked, harrowed and leveled. The potato plats are now being backset and gotten into shape.

The wheat and barley varieties were seeded on Series III field C and G; the sugar beets were planted on the north half of Series IV and IIV field D, and the mangel varieties were seeded on Series II field G.

The peas, clover, alfalfa and brome grass were seeded on the dry land during the week and the land put inshape for seeding barley and oats, which we hope to get in the first part of next week.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

About 500 red cedars and 500 austin pines were planted, and also a large number of strawberries, raspberries and other small fruits.

Huntley.

During the week ending April 10, the maximum temperature was 80, minimum temperature 25, and precipitation .01 inch. Weather conditions have been favorable for field work during the entire week.

The grasses and grain in the method-of-planting experiment have been planted in field B-V.

The teams were employed the remainder of the time in preparing field L, the new field on the townsite, for seeding.

Winter wheat in the neighborhood is being damaged to some extent by an invasion of the "army cut worm". In only a few cases has this damage proved serious so far, although in other parts of the State the crop has been almost totally destroyed. Mr. Howard Semans, of the Biology Department of the State College, visited the Project on Sunday.

According to Mr. Jas. Scilley, of the Billings Sugar Company, nearly 24,000 acres of beets have been contracted for in the entire district. Of this amount over 6,000 acres are on the Project.

Mr. Hansen visited the State Station at Bozeman on April 5.

San Antonio.

During the week ending April 10, the maximum temperature was 84, minimum temperature 50, and greatest daily range 28.

All cotton plats in the rotation experiments were harrowed and on the Sixth planted to cotton. Plats A4-12 and 16 were planted to Orange sorghum on the Tenth.

The orchard on B3 was double disked. Scattering weeds were hoed out of all orchards. That portion of C5 to be planted to cotton was weeded.

The taking of soil samples for a study of variation in moisture determinations was completed. These samples were taken on field C3 on land which was in oats last season and which was plowed in October. The area sampled is nearly level and the uniformity of

24 April, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

the treatment it has had should make it suitable for a study such as the one completed. One hundred borings were made, each foot section being put into a single sample, making in all 600 samples. The borings were made twenty feet apart each way so that the one hundred borings covered approximately one acre.

Dr. C. S. Sargent of the Arnold Aboretum and Mr. Ames were in San Antonio on Wednesday and Thursday. While they were here Mr. Hastings made trips to Boerne and Sutherland Springs with them.

Truckee-Carson.

During the week ending April 10, the maximum temperature was 75, minimum temperature 32, and precipitation ,72 inch.

Label stakes were prepared with names and entry numbers of all garden and field crops.

One man worked thoughout the week preparing irrigation and drainage bones and otherwise perfecting the irrigation system.

Field G-1, 3, 4 and 5 were plowed.

Plat B-3 was planted to nursery stock and miscellaneous varieties of trees.

All of field Y was harrowed.

A shipment of trees was received from the German Nurseries containing varieties of dwarf apples, dwarf pears, cherries, plums, persimmons and a number of ornamental and forest trees for trial.

Plants have been received from the Office of Seed and Plant Introduction to date this year as follows:-

	S.P.I.
4 Malus sp.	30328
4 Malus sp.	30635
10 Prunus armeniaca	37006
5 Hypericum hookerianum	35099
3 Ligustrum sp.	26767
2 Prunus tomentosa	36111
2 Prunus triloba	36718
2 Rosa multiflora	30863
2 Sophora davida	33061
2 Sophora tetraptera	36135

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

		S.P.I.
5	phyllostachys sp.	23233
5	Castanea mollisima	36666
3	Hovenia dulcis	33101
5	Pinus sp. (Austrian Pine)	
2	Psedera henryana	
		P.I.G.
2	Rosa rugosa	14667
2	Rosa rugosa	14668
2	Rosa rugosa	14669
4	Abelia Neo-Mexicana	
		S.P.I.
3	Hippophae rhamoides	36743
2	Koelrenteria paniculata	
4	Populus sp.	34779
2	Populus angulata	34790
2	Populus berolinensis	34792
1	Populus petrovskiana	34797
3	Ulmus parvifolia	37810
5	Artemesia sp.	32237
1	Crataegus coccinea	32014
1	Elaeagnus angustifolia	36542
1	Elaeagnus angustifolia	36543
1	Elaeagnus angustifolia	36544
1	Malus sp.	30326
1	Malus sp.	30328
1	Malus sp.	30353
3	Rhamnus sp.	36735
2	Salix sp.	38233
3	Salix fragilis pendula	33135
2	Ulmis sp.	32831
1	Ulmis densa	32830
2	Zelkova serrata	35301
2	Lonicera bracteolaris	32995
6	Pyrus sp.	29050
2	Amygdalus communis	7398
2	Prunus avium	33222
2	Prunus simonii	26886
2	Clematis recta Mandsueica	22620
2	Kucommia ulmoides	30137
2	Salix humboldtiana	28710
2	Amygdalus persica Nectarina	3468x

24 April, 1913.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche.

During the week ending April 10, the maximum temperature was 60, minimum temperature 28, and precipitation .42 inch.
No field work was done during this week.

During the week ending April 17, the maximum temperature was 83, minimum temperature 28, and precipitation .38 inch.
Field work was started on Monday. The dry land wheat, oats and barley variety test have been seeded. The ground for the dry land rotations is ready for seeding and two-thirds of the plats in the irrigated rotations have been disked. One hundred bull pines, 100 jack pines, and 100 white cedars were received from the Forest Service and planted during the week.
Trees and shrubs of all kinds came through the winter without any winter killing. Winter grains are in excellent consition and the fall seeded alfalfa came through the winter without any winter killing.

In a recent letter (April 19), Mr. Aune remarks on conditions on the Bellefourche Project as follows:
"The spring is later than usual this year, no field work being done until the 12th of the month. We had our work well cleaned up last fall and anticipate no trouble in getting all our crops in on time."
"The ground is in the very best of condition and plenty of moisture to start all crops. This winter we had much more snow than usual, very little drifted and melted so gradually that all was soaked up."
"The conditions on the project I believe to be the best we have had so far. People are getting into live stock of one form or another. Considerable feeding of sheep was done during the winter and they all made out good. All the alfalfa hay was fed up and what little is left is selling for eight to ten dollars in the stack. This year expect to see more hogs and corn grown than any previous year and the number of dairy cows are also being increased."

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

The following reports show Mr. Jones' activities during the weeks ending April 10 and 17:

Number of requests for service	12
Number of callers at office	0
Number of farms visited	10
Number of hogs represented in herds visited	657
Number of farms revisited	2
Number of demonstrations planned with farmers	4
Number of cholera outbreaks found	0
Number of hers vaccinated	0
Number of hogs vaccinated	0
Number of hog houses, dipping vats, etc. planned	2
Number of treatments other than for cholera	0
Distance traveled, miles	94
Number of meetings attended	1
Total attendance	35
Lectures given	1
Demonstrations given	0

Other work.

Breeding:- One party was advised about caring for young pigs and another about shipping in hogs.

Feeding:- Arrangements were made with 4 farmers for conducting cooperative hog feeding demonstrations. One will be in connection with feeding barley and alfalfa, another with feeding corn on alfalfa pasture later corn to be replaced with barley, A third demonstration will be to determine the value of alfalfa pasture when grazed by hogs when a 2% grain ration is fed also to determine the cost of growing hogs from the time they are pigs until marketed as fat hogs. The fourth demonstration is very similar to the third one mentioned.

Buildings:- One party was advised about constructing a dipping vat for hogs and plans were furnished for a hog house.

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

Pig Clubs:- A lecture was given on pig clubs at the Sheep Creek school for the purpose of organizing a pig club in that locality. Interest good. Attendance 35. Probable number of members in club, 10.

Disease:- One call was received to a farm where cholera was suspected, but no cholera was found. Only 3 cases of cholera have been found this year.

Number of requests for service	11
Number of callers at office	3
Number of farms visited	11
Number of hogs represented in herds visited	1260
Number of farms revisited during week	1
Number of demonstrations arranged with farmers	4
Number of cholera outbreaks found	2
Number of herds vaccinated	2
Number of hogs vaccinated	107
Number of hog houses, dipping vats, etc. planned	1
Number of treatments other than for cholera	3
For sore mouth in pigs	3
Distance traveled, miles	186
Number of meetings attended or held	2
Total attendance	16
Lectures given	2
Demonstrations given at meetings	2

Other Work.

Feeding:- Cooperative hog feeding demonstrations were arranged for with 4 farmers. Alfalfa pasture will be made the basis of all these feeding demonstrations. In all or nearly all demonstrations the grain fed will be corn. Some beets both sugar and stock beets will be fed in a few cases.

Buildings:- Plans were furnished to one farmer for the "A" shaped portable hog house. In a colony hog house recently built on the project by a hog raiser, 24 sows, old sows, have raised 216 pigs to the average age of 2-1/2 weeks. Cost of hog house not

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

including labor, $300. There are 25 farrowing pens in house. There are about 40 more sows to farrow within the next month. Comparing the number of pigs raised or saved on this farm last year with those this year the indications are that the price of the hog house will be saved with this spring's pig crop.

Diseases:- Three herds were treated for sore mouth. In one case the pigs' tusks were clipped off. Two cases of hog cholera were reported. One in a herd of 104 the other in a herd of 10 hogs. Both cases were promptly reported and later vaccinated and the sick hogs in both herds quarantined and it is not thought that the disease will likely spread from these herds. Both outbreaks were in the locality where the disease was prevalent last summer and fall but neither of these farms had an outbreak last year. Owners of neighboring herds have been notified of these outbreaks and asked to report trouble at once should their hogs appear sick.

Huntley.

Twelve farms were visited during the week ending April 10. Additional milk record sheets were distributed to interested farmers, and arrangements were made to test cows belonging to M. K. Davis. Saturday afternoon some samples were tested for Mr. Mink and Mr. Hackney.

Wednesday afternoon a trip was made over the project with Mr. Fifield, attending night meeting of the Water Users Association at Pompeys Pillar, where a short talk was made explaining the demonstration work.

Next week a trip will be made to Bozeman for the purpose of getting in closer touch with the State Experiment Station.

The first three days of the week ending April 17 were occupied by a trip to Bozeman for the purpose of getting in closer touch with the State Experiment Station Officials. Conferences were held with Professors Cooley, Hartman, Martin, Wilson and Linfield, and arrangements made to cooperate with them in all matters of mutual interest. Tentative arrangements were made with Prof, Cooley for an institute meeting to be held on the Huntley Experiment Farm in

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley (continued)

July or August. Thursday afternoon a telephone call was received from Shepherd, reporting that J. F. Vines near that place had cholera in his swine herd. A telegram was immediately sent to Prof. Cooley asking for a veterinarian and serum. A reply was received stating that he would try to send some one the following day (Friday). I expected that this party would come to Huntley and go to Shepherd from here with me, but no one appeared here on Friday. On Saturday morning I went to Mr. Vine's place and discovered that Dr. Welch of the State College had been there on Friday and had vaccinated the hogs, having motored to Shepherd from Billings. A number of hogs in this neighborhood have been exposed, but Mr. J. C. Fredendall is the only other man who will vaccinate at present. Dr. Dennis, of Shepherd, will do the work for him as soon as the serum is obtained. Friday a trip was made to Billings for the purpose of purchasing supplies. Saturday afternoon I conferred with Mr. Dan Hansen regarding the proposed institute meeting on the experiment farm. It was decided to leave the matter largely in the hands of the farmers themselves and we will suggest that they make a picnic day of it if they choose.

It seems improbable now that our silo club will materialize owing to the fact that some of the prospective members do not feel financially able to go ahead with the plan this year. I still have hopes of securing one or two silos on the project this fall, however.

Minidoka.

Mr. Rinehart reports the following for week ending April 10:

As is usual in a cholera outbreak in a new vicinity several calls were received from those whose pigs did not seem to be doing well. At two farms where dead pigs were found, the diagnosis showed that in one case the trouble was straight alfalfa feeding, impaction and bloating having taken place and in the other death had occurred three days before the examination was made and the body was too badly decomposed to make a diagnosis.

Mr. Gill, whose farm is near Heyburn, is starting a very good herd of registered Holsteins. He is planning on building a modern dairy barn later in the summer.

A visit was made to the Boise project to assist in the organization of community associations for the control of hog

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.(continued)

cholera. In one section, embracing four school districts, the farmers are organizing Hog Cholera Control Organizations. It seems best in this case to have the entire survey made by the local field men. In this way each farmer can be made familiar with the nature of the work. Where cholera has existed he can be instructed how to disinfect the premises properly. The local leaders are appointed, it being their duty to report any outbreak of disease or trouble among the hogs.

The greatest difficulty in an organization of this kind is in securing the serum as needed. The Deputy State Veterinarian, however, thinks that there will be no difficulty in making arrangements so that serum can be supplied from the Boise office.

Mr. Rineharts report for week ending April 17, is as follows:

The organization work on the Boise Project was completed Monday night. Under the present conditions the greatest difficulty willbe the securing of good serum. The State Veterinarian is inclined to favor the use of the serum from a privately owned plant - and, as many disastrous results have been obtained from the use of serum and virus from this plant, serious trouble may be anticipated. It is possible, however, that the State Veterinarian may be induced to use serum from a plant having Federal endorsement.

On returning from Boise, one cholera call was in, two more were received that morning. All were investigated.

At Mr. J. A. Handy's of near Heyburn (School District #17) the trouble was found to be infectious sore mouth. All the spring pigs (approximately 30) had been affected except three, and all but five died. The visit was made too late to be of any benefit to Mr. Handy, except that he was given instructions as how to prevent a reoccurrence of the disease in the future. While he had noticed the disease for sometime he did not think it was contagious or serious until several pigs had died.

One of Mr. Trent's sows was off feed but no serious condition was found. This herd was also visited by Dr. Henderson the following morning.

At the farm of M. D. Grace, 3/4 miles northwest of Rupert, cholera was found. Mr. Grace had noticed one sow sick on the 9th and several pigs sick later but did not become alarmed until the 14th when one pig died in the forenoon. In the evening another was lost. The post mortem showed cholera to be present.

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

Dr Henderson arrived the next morning and confirmed the diagnosis. The herd, consisting of 3 sows and 17 sucking pigs, was vaccinated in the forenoon. Eleven high temperatures (over 104°) and one case of skin lesions were found. As is the custom in all cases of vaccination, hogs having temperatures above 104 are marked by a ring in the right ear. This is for two purposes, first to show the owner that this animal was badly infected and that we do not consider its chances for recovery to be good, second to show us the percentage of hogs with high temperatures that recover when given the serum treatment. Various systems, as a ring in the left ear or a ring in both ears, are used to denote how high the temperature was.

This farm is over six miles from Mr. Beebe's. It is impossible to trace the source of infection.

Under present conditions infected farms are not quarantined. The State has as yet appointed no deputy to work in this section. It is being taken up with the State Live Stock & Sanitary Board this week and, as all adjoining states refuse to accept the certificates of the State Veterinarian and his assistants (all being non graduate veterinarians) many changes are anticipated. However, the people are giving us much good cooperation that a man considers himself under quarantine and follows instructions closely, moving no hogs until his farm has been pronounced free from the infection.

Tieton.

During the week ending April 17 the North Yakima creameries have received 6372 pounds of cream. The average price was 22 cents, the creameries doing the collecting. It is estimated that it costs about one cent per pound to gather the near-by cream and as high as three cents to collect that at the end of the long routes. Hot weather is just beginning to affect the quality of some of the cream gathered.

The Northern Pacific reports 22 cars of potatoes shipped off the Tieton this spring. This does not represent the total for the O. W. R. & N. shipments arenot yet obtained. Potatoes have advanced to $23. per ton and there are very few available even at that price. The unusually heavy snow and cold winter have caused considerable losses in the pits. A great many

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

potatoes were sold early due to the condition of the pits.

The interest in pasture grass mixtures previously mentioned is taking a practical turn. Pastures already in use are being reported and several new ones will be put in this spring. Blue grass is quite generally favored although there is room for doubt that this grass is the most desirable under Tieton conditions. Although white clover grows well many, possibly without trial, favor alsike or red clovers.

At least two plats on different farms will be used for corn breeding demonstrations. The southern part of the project has been gone over thoroughly and the two best varieties which have been grown for three years have been selected for these plats. One seed selected is of an unknown variety but has fairly uniform type and yielded well. The other seed is of known pure breeding. It is planned to keep the best seed from each plat for continued breeding and to distribute whatever more good seed is produced. The men who have furnished this seed will receive their pay either in seed or feeding corn this fall.

Seed oats grown from carefully graded seed of excellent quality will also be available for next years sowing.

Mr. Stone has reported losing four calves from two to six weeks of age. He "post-mortemed" them and found the lungs badly congested and of an angry red color. Another calf was taken sick this week and is being treated with steaming applications and euthymol. Its condition yesterday was improved but it is still in bad condition.

Dunn Brothers of Sunnyside are extensive ranchers. Their operations include fruit growing with diverdified farming. A free water right supplies sufficient water for their blue grass bottoms and the feed is excellent. They have an exceptionally good Short Horn herd and will close out their grades this fall keeping only pure breds. Grade and pure bred sheep are used to pasture the orchards and the small damage they do the lower branches is evidently of small consequence compared to the returns from the flock. Inasmuch as many sheep are bought and sold annually it was impossible to estimate the grazing capacity of the orchards. Alfalfa was orginally seeded in the orchards but blue grass has crowded it out. Mr. Dunn said it is their practice to breed their mixed brood sows twice a year but to allow only six

24 April, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

pigs for each sow. He holds that six pigs will produce as much weight at weaning time as a larger litter. Probably this would not be true on a dairy farm where skim milk forms a considerable part of the ration for young pigs.

The Sunnyside alfalfa is several days behind that on the Tieton, but we are told that this difference will be more than made up in the second cutting. Nights are not so cool on the Sunnyside as on the Tieton and the second crop makes a faster growth. That probably accounts for the fact that Sunnyside corn will not mature here. Dunn Brothers are very successful corn growers and produce enough to feed several car lots of steers and hogs every season.

The greater part of this week has been given to the Wide Hollow part of the project which has been previously surveyed. The pasture grass and corn demonstrations required immediate attention for the soil is drying rapidly in the warm winds and sun. Irrigation water is available now and the few fields that really required more moisture are being relieved. A few surveys were collected and comparisons between those already collected and those taken last fall by the Reclamation Service was begun.

PERSONAL.

Mr. Farrell left Washington April 20 for the Uncompahgre Project, Colorado. He is expected to return to Washington about June 1.

1 May, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending April 10, the maximum temperature was 92, minimum temperature 45, and greatest daily range 44.

The first seeding of successive planting experiments of Durango cotton and Sudan grass to be conducted were made on C-20 and D-13 respectively.

Dwarf Milo maize for thinning test was planted on D-13.

The growing season for weeds is ideal making much miscellaneous hoeing from now on throughout the season.

Barley and wheat on the Project now shows encouraging promises for good yields. The earliest fields will soon be mature.

Twenty-six trees of 13 varieties of American persimmons were received from the Pomology office and planted to orchard on B-32.

During the week ending April 17, the maximum temperature was 95.5, minimum temperature 46, and greatest daily range 46.5.

Row plantings of Jack beans were made on A-10-8 and A-14-7. Varieties of grain sorghum were planted on C-25 and 26.

Old alfalfa lands, E-1 to 6 and C-6, 7, 27 and 28 were plowed again deeply and prepared for watering and planting. Miscellaneous and ditch hoeing continued.

Sorghum varieties are being planted on A-24 and alfalfa varieties on A-15-4. Alfalfa was harvested from B-18, 21 and 22; C-21, 22 and 24 and D-21 and 25.

On Tuesday evening there occurred a very severe wind and sand storm that resulted in considerable damage to Valley crops and improvements on the Experiment Farm. Heavy grains were blown over badly and a number of large cotton wood trees uprooted. The large iron roofed machinery shed on the Experiment farm was wrecked, but has since been disassembled and the material will be utilized in rebuilding the shed. Several farm implements were damaged, but not crushed beyond repair.

The California-Arizona highway bridge across the Colorado River at Yuma is completed and was opened to travel Sunday, April 11. This bridge replaces the old River ferry that has been in use for many years at Yuma.

The 50-saw gin installed at this station recently is now adjusted and in use, ginning the rouged Durango cotton produced in this valley for furthering a clean local strain of Durango. It makes a full load for an eight horse-power gasoline engine.

Various farmers are standing their first alfalfa crops to seed this spring.

1 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley.

During the week ending April 17, the maximum temperature was 83, minimum temperature 25, and precipitation .07 inch.

Weather conditions were favorable for field work on all but one day during the week.

The preparation of field L for planting was completed.

Wheat (variety, Pringles Champion) was planted on plats L1 to 16, inclusive.

The teams were employed during the remainder of the time in preparing land and seeding grains on field H (dry land).

The following varieties of apples were planted on the 17th: Fameuse, Yellow Transparent, Wagner, and Liveland. Ten of each variety.

The following varieties of grapes were also planted on the 17th: Lady, Vergennes, Canada, Martha, Missouri Riesling, Rommel, Delaware, Perkins, Lucile, Woodruff, and Early Daisy. Five of each variety.

The rainfall has been unusually light during the past two months and the soil in many cases does not carry sufficient moisture for the germination of seed that has been planted.

During the week ending April 24, the maximum temperature was 81, minimum temperature 23.

Weather has continued warm and dry. In most cases there is not sufficient moisture in the soil to germinate seed.

Barley variety Success was planted in field LII-1 to 20, inclusive.

Sugar beets were planted in field BVI (distance of planting and thinning experiment), and in the rotation plats in field K.

Alfalfa was planted in the rotation plats in field K.

The following varieties of wheat were planted in duplicate plats in field CIII: Pringles Champion, Dicklow, Defiance, Kubanka, Stanley, and Marquis.

Water was started in the canals, and irrigation of alfalfa will be necessary during the coming week if there is no rain.

1 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio.

The maximum temperature for the week ending April 17, was 82, minimum, 52, and the greatest daily range, 28. The total precipitation, which came in two showers, was .87 inch.

All fields not previously planted were harrowed and the orchards were cultivated after the shower which occurred the first part of the week.

The corn on the rotation plats was cultivated as well as the the corn on C3 and C5.

Milo and sorghum for forage on the rotation plats and the milo on D3 were also given the first cultivation.

Mr. Davidson of the Office of Crop Acclimatization, who arrived last week, spent the greater part of the week in planting cotton for the various tests to be made by that office during the present season.

All cotton planting at the farm has now been completed.

Oats on the farm have headed and the prospects are favorable for a good crop.

Cotton on the rotation plats planted last week is coming through and the prospects are good for a perfect stand.

Ten large Sabals, six Phoenix canariensis, and two Washingtonia filifera palms were set out on the new grounds on Tuesday.

Truckee-Carson.

During the week ending April 17, the maximum temperature was 78, minimum temperature 32, and precipitation .11 inch.

The leveling of field Y was completed. Sweet clover was seeded on Y-1, 2, 3, 13, 14 and 15. Alfalfa was seeded in plats Y-4 to 12 and Y-16 to 18.

The wheat varieties were planted April 11 on the Farm of A. R. Merritt. All varieties were seeded in duplicate in approximately one-half acre checks. The varieties planted were the following: Dicklow, Bluestem, Little Club, Sonora, Rieti, Gherka, Marquis and Defiance.

The varieties of barley were planted April 16 on the farm of Mr. Smith. All varieties except the hulless were seeded in duplicate in checks containing slightly less than one-half acre each. The varieties planted were the following: Local,

1 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Svanhals, California Feed, Hulless and Hannchen.

Cut worms were reported to be doing considerable damage to alfalfa in several portions of the Project.

Field H-1 was manured. This field will be planted to Northwestern Dent corn. Selections are to be made in the fall for early maturing and otherwise desireable ears.

The ornamental trees around the buildings were pruned.

A cold frame was filled with earth from an alfalfa field and the cabbage varieties were transplanted to it.

The varieties of turnips, beets, peas and carrots were planted in B-5.

Belle Fourche.

During the week ending April 24, the maximum temperature was 83, minimum temperature 34, and precipitation 1.72 inches.

The remainder of the grain variety test was seeded and the oats in the dry land rotation.

The leveling in the irrigated rotations about two-thirds completed and the ground for the fall irrigation experiment gone over with spring tooth harrow.

No field work was possible the last half of the week and the ground is so wet that no seeding can be done for several days to come.

Scottsbluff.

Thursday night and all of Friday, of the week ending April 24, a nice slow rain fell giving a total precipitation of 1.8 inches. This rain was needed as the grasses were beginning to show signs of drouth.

During the week the potato plats on the irrigated rotation field were plowed and put into shape for planting. The beet plats are also ready to be planted as soon as the soil is dry enough for this work.

Several days were required to fence off the hog pastures for this year. A number of new pastures had to be fenced off. Some of these new yards will be on the strip of land between Field G and K and the fence.

1 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

It was decided to plant Series VI field G into corn for the hogging work. The soil on this field being more even than where the work was carried on last year.

The oat varieties were seeded on Series II fields C and G. The south end of the same Series was seeded to sweet clover. Last year considerable soil had to be scraped off of this end and was not in shape for grain seeding.

Several thousand pines and several hundred poplars were set out during the week.

This year we have given to farmers on the Project about 1,000 young Carolina poplars, and about the same number of Golden willows, as well as strawberry plants and raspberries.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

During the week ending April 17, two outbreaks of hog cholera were found. One near Minatare, in the vicinity where the disease was prevalent last year, though no cholera had previously been on this particular farm. The other outbreak of cholera was about eight miles northeast of Minatare, where there had been but little cholera before. These two cases of cholera are the only outbreaks of any consequence that have occurred on the project for two months.

One of these outbreaks was reported by the owner of the hogs, and the other by a neighbor. Both herds were promptly vaccinated as soon as reported. In one herd there were 104 hogs that averaged about 175 pounds each when vaccinated. Ten had died before the herd was vaccinated, and six showed visible signs of sickness and were not vaccinated. Forty six others showed a temperature of 104 and above. Fifty-two showed normal temperatures. The hogs showing normal temperatures were given 40 cc of serum per 100 pound weight. These hogs were following steers in a feed lot, and naturally were in a very unsanitary place. Because of the advanced stage of the disease

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

at time of vaccination and because of the unsanitary condition of the quarters a rather heavy loss os to be expected.

The second cholera outbreak reported was in a small herd of ten, 175 pound hogs. One had died prior to vaccination and one that showed marked signs of sickness was not vaccinated. Three of the nine vaccinated showed high fever.

When vaccinating a herd for cholera the temperature of every hog vaccinated is taken. In this way the real condition of the herd is learned and the one doing the vaccinating knows just anout what loss to expect and can so inform the owner. Another important feature is the marking of the hard vaccinated. The marking system used on this project, is as follows: When hogs have normal temperatures, no mark; When hog has temperature of 104 and less than 105 but is not visibly sick, a hog ring is placed in lower or back part of right ear; If the temperature is 105 or over and the hog is not visibly sick, the ring is placed in the upper or front part of the right ear; If the hog has a high temperature and shows visible signs of sickness and is vaccinated, the ring is placed in the lower or back part of the left ear; If too sick to vaccinate the ring, is placed in front or upper part of the left ear. After the herd is vaccinated notes are made of conditions and the ear markings. Later when the herd is visited by referring to the notes previously made it is very easy to find out just what number of each class have died or recovered. Occasionally it will prevent a dispute with the owner as to whether it was the hogs with the normal temperatures that died or those with a high temperature.

During the week one large herd of hogs was visited in which there were 24 old brood sows that had recently farrowed. The pigs were from three days to three weeks old. At that time there was a total of 216 healthly pigs or on an average of nine pigs per sow. An excellent record. The secret of this farmer's success with his pig crop is a new, 25-pen farrowing house that has recently been built. Last spring this same farmer lost very heavily of his spring crop on account of not having suitable places for his sows to farrow. The new farrowing house cost about $300. not counting the labor. This farmer has about 40 more sows to farrow and it is very probable that his saving in pigs this year, over those saved last year, will just about pay for the new farrowing house.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Yuma.

Cotton planting is beginning in Yuma Valley but rather slowly, and as yet difficult to estimate the season acreage. Farmers who are planting Durango are thus far depending on the supply of rouged seed. This will be sufficient for planting 300 to 400 acres.

My time has thus far been largely taken up at the Station and much estension effort has not been possible. We are not urging the skeptical ones to plant cotton this season, but giving them our views of the cotton outlook, saying that it looks fair to improve steadily.

Wheat and barley now give promise of good yields and will soon begin to ripen. The late plantings are uniformly poor.

As for alfalfa seed production I believe there will be much alfalfa left to seed this year. Some first crops are being seeded in the lower valley.

At the station we will make the following observations regarding seed production this season:

1. Varied distance of row plantings.
2. Winter pastured versus meadowland.
3. Tripping when in full bloom.
4. Determination of infestation of Chalcis fly linked with seed yields from different crops saved for seed.
5. Determination of increase of Chalcis fly as season progresses.
6. Determination of infestation of Chalcis fly in tripped and untripped plats; pastured and meadow plats.

These entomological studies are to be carried out with Mr. T. D. Urbahns of the Bureau of Entomology who is conducting further studies of the Chalcis fly in the Yuma Valley.

Boise.

Organization for hog cholera control has occupied the greater part of the week ending April 10. E. F. Rinehart from Minidoka Project has been present to assist with the work and three meetings have been held, although the meeting of Thursday night at Fair Acres was practically a failure. At

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

Greenleaf 25 farmers came out and gave the movement their hearty support, elected a leader for the district and men to report for each part of the district. These latter are called survey men although the necessary surveys will be made by this office and the County Agent, since the districts are small, and since it is desirable for both men to cover as much of the territory as possible.

Friday night at Fargo 20 were present and, although cholera has never appeared in that district, those present expressed themselves in favor of the organization and selected their leaders.

No reason can be given for the lack of attendance at the Fair Acres meeting other than lack of interest or rush of early irrigation as the meeting had been well advertised. Only two men came, although this is the district in which cholera has appeared in a bad form within the past two weeks.

That education along the line of disease control is needed among farmers is shown by the fact that just across the road from the farm where cholera has appeared is a man with 200 head of hogs who persistently permits his dogs to run at large. The man who has the disease has frequently seen his neighbors dogs on his place and has warned him of the danger but the neighbor does notbelieve that the disease is cholera. It is to overcome such prejudice that the control work is to be taken up; at least, that is one of the objects.

A small beginning was made on the survey work on Friday of this week, a hog cholera survey and the general live stock survey being worked together. Although only a few men were visited it was brought out that there will be some objection to the general survey on the part of the settlers on the ground that the data asked for is practically the same as those gathered by the county assessor and the "ditch rider" who represents the Reclamation Service. For this reason it may prove to be desirable to get much of the data from these men but for other reasons the survey should be profitable.

An event of general interest in and aroung Caldwell is what is known as Traders' Day Sale which is held here each first and third Mondays of each month. Started several years ago as a small institution, it has grown to be of considerable importance. All kinds of goods, including live stock, are offered for sale and people attend the sale from considerable distances away. At the sale

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

held this week 56 head of cattle were sold, ranging from young calves to aged cows and including a number of bulls. Prices ranged as follows: Dry cows, $45.00; fresh cows, $49.55; yearling and two-year old heifers, $27.13; two-year old steers, $60.00; yearling steers, $27.75; Grade yearling bulls, $29.88. These prices are the averages for each class. Hogs sold cheaply on account of the present high prices of grain and fear of cholera. Grade sows of fair quality sold at and average of $8.30; one pure-bred Duroc Jersey sold for $10.50. Two purebred boars of very good quality sold at $13.50 and grades went at $6.50. Fourty head of shoats weighing up to 75 pounds sold at $3.24. Only a few horses were sold as bidding was very slow. The fact that the above prices were cash had, of course, some effect upon them. In many cases stock was sacrificed for the sake of raising money for purchase of seed, etc.

Another institution that has become of more than local importance is the monthly horse sale at Caldwell. This was started only a few months ago but has had a very rapid growth. During the last month, it is reported that there have been 75 car loads of horses shipped from this station while the average for the past several months has been about fifty cars. At the last sale, including three days auction and three days sales before and after the auction, nearly 700 horses sold for nearly $100,000. These include all kinds and grades of animals, prices varying accordingly. Many of the horses shipped out are intended for military use in European countries, these selling at about $130 for cavalry stuff and $175 for heavy stuff. Drafters sell around $175 average and farm chunks at about $150.

The meeting of the Association of Cooperative Creameries reported for the seventh was held for the purpose of discussing a plan for placing a selling agent in the cities nearer the coast to handle the product from all the cooperative creameries of this section. The plan met with general approval but it was suggested that some work along the line of standardizing the products of the various creameries should precede the execution of the plan. Steps have already been taken toward this end in that a man is being sought to put in a few months work among the patrons of the creameries for the purpose of giving instructions regarding the proper handling of milk and cream.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

On the 6th I went to inspect a herd of hogs which were reported as possibly having cholera. The herd was not on the project but very near. No indications of the disease could be found although there had been some loss in the herd. The owner had been feeding cottonseed meal and attributed his loss to that. The meal is comparatively cheap and has been used more or less generally this year.

Mr. Ireland reports the following for the week ending April 17:

The meeting at Wilder on Monday night was not very well attended, only 14 farmers being present, but the interest was very good and a strong organization was effected with a progressive man who is extensively engaged in hog raising as district leader and three local survey men. No trouble has been reported this year from the district. Wilder was the source of all the trouble in that part of the valley two years ago, one of the farmers there having imported some infected stock from Iowa, from which the disease spread to almost every farm in the district causing serious losses to nearly all the farmers.

Due, probably, to the careful way in which Mr. Cross has handled the outbreak on his farm this year, no other cases have occurred up to the present time, although it has been nearly a month since the trouble appeared on his place. He has been conscientious in burning carcasses and spraying infected pens. His loss since inoculation with serum has been only four head, all of which were infected at the time of treatment, and three of which were considered hopeless at the time, two not being treated and a third being inoculated by mistake since the temperature was normal and symptoms of the disease not being noticed until after treatment had been given. An additional loss of one litter of pigs farrowed at the time indicating infection in the sow, might be noted.

A gratifying willingness on the part of the Directors of the Water Users' Association to cooperate in the Project Agriculturist's work has been met. It will be remembered that they unanimously voted to request the appointment of a man for the Project and it was at their especial request that I attended their meeting on the 13th. On account of an unusual amount of other work nothing

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

of importance in connection with the work of the agriculturist was taken up but I was glad to meet them and to talk with Project Manager Bliss who expressed a desire to cooperate in the work in every way possible.

On Tuesday a visit was made to Kuna and vicinity for the first time. Calls were made at the office of the Kuna Herald to become acquainted with Editor Shepard; at the school for the purpose of discussing boys' club work with Principal B. F. Edgar who was found to be very much interested in the work and willing to have any assistance that could be given in the work; at the farm of D. R. Hubard one of the Directors of the Water Users' Association who had expressed a desire to have me call. At Mr. Hubbard's place Geo. Doke was met. Seed corn selection for type and quality was discussed besides general topics relating to Mr. Hubbard's farm.

Two days this week have been spent in survey work with Mr. McCall, except that we took a little time to test a herd of dairy cows belonging to Mr. J. C. Mayhugh of Greenleaf. Mr. Mayhugh had taken two-day samples according to a previous arrangement. Mr. Mayhugh's herd is well above the average for the state. He is milking 13 cows that average just five years old and four months in milk. On alfalfa hay alone they are producing an average of 21.7 pounds of milk with an average test of 4.3% plus, making 12.6 pounds of fat daily. This at the present market price of 26¢ per pound makes a daily return of $3.28 or $98.40 per month. Assuming that the cows are consuming 1000 pounds each per month which is probably more than they eat as they are small Jersey cows, the hay is worth $15.14 per ton which is more than three times the present market price. Mr. Mayhugh has only grade cows at this time, having lost the only pure-bred cow he had. He has a registered bull, however, which is one of the best in this part of the state. Heifers of this sire show considerable promise which is being borne out by the production of two which are in milk, they showing considerably better thantheir dams.

Mr. Ireland reports the following for the week ending April 24:

On Monday of this week which was the regular date of the Caldwell Traders' Day Sale, an entire herd of pure-bred Jersey cattle was offered at this sale. The offering consisted of 10

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

cows in milk, some younger stuff and a bull. While some of the cows were very good individuals, others were not high class and three of the 10 had defective udders. Several of them had been milking a year or more and were not due to freshen until late in the year of 1915 or early in 1916. The top cow sold for $150.00, the cheapest for $60.00, the average for the sale being $94.75. This compared with the average of $49.55 for grade of cows at the last Traders' Day Sale, speaks well for the interest of dairymen here in better stock. The head of the herd, one of the best bred and highest scoring bulls in the state if not in the Northwest sold for only $90.00. No reason can be given for the low figure other than the terms of the sale were cash, money is very scarce and most of the breeders are already supplied with sires. This animal went to one of the most progressive breeders of Jersey cattle in this state and he was ready to pay considerably more than the price paid if it had been necessary.

An event of great misfortune to breeders of fine stock of the State of Idaho was the death of J. M. Royston of Fruitland last week. Mr. Royston was one of the foremost breeders of Poland China hogs west of the Rocky Mountains and was also a breeder of pure-bred Jersey cattle.

The trip with Project Manager Bliss, Tuesday of this week was through a very interesting part of the Project. The district visited is called Arena Basin. The soil is almost entirely very fine sand which has given the settlers great difficulty to subdue. Many of the settlers in this district use from 15 to 25 acre-feet of irrigation water per acre, which in connection with the fact that the soil for the first few years is not productive, makes their water bill almost prohibitive. The soil, however, is productive when once thoroughly subdued and a few of the settlers are beginning to raise splendid crops.

A proposition has come to the County Agent and myself from the people of Sunny Slope district which is something of an innovation. They have asked that we plan a course of study for the boys of the district during the summer months, making the course as practical as possible and at a minimum expense. The boys of Sunny Slope are rather exceptionally interested along agricultural lines and we are hopeful of being able to conduct such a school for the presentseason at least. If the work is undertaken reports of its progress will be made from time to time.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

A report of the work of the Caldwell Cooperative Creamery Company which was organized last October and began work about the 1st of November, may be of interest in showing the development that has taken place since that time. The creamery started with 47 patrons, making, during the first month, about 4,000 pounds of butter. At the present time there are 268 patrons and the creamery is turning out about 27,000 pounds of butter each month. During the first few months of its operations the company was not able to pay within three cents of the price paid by other companies for butterfat. Last month while private companies were paying 24 cents per pound for fat the Cooperative Company paid 26 cents and might, according to the statement of the treasurer, have paid a little more. The butter which they turn out is of the very highest quality.

Shoshone.

Mr. Hagruder reports as follows for the week ending April 17:

Twelve farms were visited and partial surveys made. At the same time the following problems were discussed with different individuals:

The re-arrangement of buildings and hog lots for convenient feeding; a remedy for worms in hogs, care of hogs, and the breeding-up of a flock of hens; a suspected case of contagious abortion; feeding and care of sows and pigs; the advisability of manufacturing cheese at the cooperative creamery; boys' clubs; seed corn; the advantage of community breeding of all the farmers, selecting the same breed of cows; and a setting of turkey eggs was even secured for one man who asked concerning them.

Three more men signed the agreement and were furnished the blanks for keeping permanent records of the feed and production of each cow. One man turned in the bottles lent him for obtaining for each cow in his herd a composite sample taken from four milkings.

Eight Indiana stave silos, 12x26 feet will be built here this spring.

1 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

To date, 38 farms have been visited and a partial survey of them made. Conferences have been had with the owners of several of these farms. Besides these men, one or more conferences have been had with sixteen other farmers. The conditions on the farms visited vary greatly. On some of them little stock is handled and the equipment is very limited, while on some of the farms the crop production is good and all of the crop is fed to cattle, hogs, or sheep. The dairy business is developing very fast, the one great limiting factor being lack of capital. Holstein heifers and cows sell for very high prices. The farmers, as a rule, are quite progressive and are doing their best under their conditions.

About 45 acres of corn in all will be planted for ensilage by six of the men. Most of the seed corn was obtained from a farmer near here and tests made by two of the men showed perfect germination. One of the men will fill his silo with a mixture of oat and cowpea hay. The other will fill his silo with a mixture of alfalfa hay and brome grass. All intend to to fill the silos with the first cutting of alfalfa for summer feeding.

8 May, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Umatilla.

During the week ending March 6, the maximum temperatre was 61, minimum temperature 28, greatest daily range 31, and precipitation .4 inch.

The work of winter pruning the fruit trees which stand in fields C1 and C2, and D1 and D5 was completed.

The 36 checks for use in crop rotation and soil fertility experiment in field D4 were graded and straw put on the land to prevent its blowing.

From the amount of grape stock brought into the District this spring it is estimated that fully 100 acres of grapes will be planted. The success of American varieties of grapes in this locality with the promise of a market to grape juice concerns has created a decided interest in grape culture.

During the week ending March 13, the maximum temperature was 63, minimum temperature 23, greatest daily range 40, and precipitation .05 inch.

The grape vineyard, B5 was pruned. Work of making the road between fields B2 and B3 and B4 was continued and completed. Considerable time was spent in general repairs of the irrigation system. The work consisted mainly of leveling up the flumes, repairing cracks and holes in them and in making some changes in the boxes and gates,

Hauling manure from feeding corrals on the Umatilla River was begun. This material is to be used for the fertilizer plats in the crop rotation and soil improvement experiment in field D4.

A car of pipe (wood stave) and a consignment of vitrified tees and elbows were received for installing the irrigation system in field D4, for remodeling the system in A1 and small vitrified material for the septic tank connections.

During the week ending March 20, the maximum temperature was 72, minimum temperature 25, greatest daily range 43, and precipitation .05 inch.

Samples of soil were taken from the 36 plats in field D4 where work is being undertaken to determine the effect of various systems of cropping and fertilizing upon the fertility of the land.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued)

The alfalfa in fields A1, C1 and B1 was harrowed to eradicate foreign plants which are mostly blue grass with considerable downy brome grass (Bromus tectorum) and some Bromus maximus gussoni. The downy brome is becoming a very troublesome pest throughout the entire irrigated area of the Columbia Basin.

Field B1 was prepared for irrigation and is to be used to repeat irrigation experiment No. 5, which gave valuable data upon the duty of water for alfalfa in 1914. The work will be conducted in the same manner as it was last season.

Part of the orchards were sprayed for the control of aphids. Although they have appeared in great numbers many more of their natural enemies are present and it appears that they will not be so troublesome as last season if the enemies thrive.

During the week ending March 27, the maximum temperature was 75, minimum temperature 32, and greatest daily range 39.

The work of spraying the aphis was completed.

Eight varieties of field peas, Amraote, Bangalia, Blackeye Marrowfat, Canadian, Clamart, Cossack, Gray Winter and White Marrowfat, were planted March 23 in field A3. The seed for one half of each plat was innoculated with a culture received from the Oregon Experiment Station.

The first irrigation of the season was applied March 25 to the land in field A3 recently seeded to field peas.

The work of laying the pipe in field D4 which was begun early in the week progressed without hesitation. The small (1-1/2") iron pipe previously used for irrigating the yard by sprinklers was removed to give place for 4" wood stave pipe and valves for flooding. It was impossible to get enough water through the small pipe to supply the full need of the yard in times of warm weather.

Excavation was begun for the building of lysimeters in the southeast corner of field A3. This experiment, which is planned to determine the nature and extent of leaching that takes place in this soil with the amount of water applied by the average irrigator.

A general and severe infestation of garden cutworms has made its appearance in a number of alfalfa and wheat fields

8 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued)

in Umatilla and Morrow Counties and in some places the worms are doing much damage to crops. As they are about mature it appears that their ravages will not continue long. Up to the present time but a small number of fruit trees have been injured.

During the week ending April 3, the maximum temperature was 72, minimum temperature 31, greatest daily range 41, and precipitation .71 inch. This is the highest weekly precipitation recorded by the Farm. Coming as it did in a season of short water supply it has been a boon to the entire Columbia River Basin. It practically suspended the application of irrigation water of the Umatilla Project for a period of two weeks.

An exceedingly light snowfall and slow spring thaw has resulted in an unusually low runoff from the Umatilla River water shed. This is the first year that the Reclamation Service has been unable to fill the reservoir. As the available stored supply has not been used heretofore there appears to be little cause for alarm as there doubtless will be sufficient water for the land that is now under cultivation.

Work was continued and laying the pipeline in D4 completed.

Work was also continued on the lysimeters and a large part of the form and concrete work was completed.

Replanting missing trees in the tree fruit experiments, field C1, C2, D1 and D5 was attended to.

A septic tank with the necessary drainage system was made. It is made of reinforced concrete with six inch walls. The building of this tank, which replaces a smaller one, is the first step in removing all possible sources of contamination of the domestic water supply. The next will be a concrete floor in the barn with flush basin from which all the manure will be taken direct to the fields. The loose condition of the soil and free movement of ground water which stands at about 12 feet from the surface renders it quite difficult to prevent the domestic water becoming contaminated since nothing other than the ground water appears to be available.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued)

During the week ending April 20, the maximum temperature was 75, minimum temperature 32, greatest daily range 39, and precipitation .01 inch.

Work was continued on the lysimeters and completed excepting for removing the forms and grouting the surfaces.

The meteorological instruments were moved from the yard (a1) to the southwest corner of A3, near the lysimeters.

Twenty-eight additional varieties were added to the grape variety test. They were placed in the area formerly occupied by the commercial planting of Concord and Moore Early which have practically all died out.

A number of ornamentals were added to the landscape scheme of the grounds. The principal of which were 10 black locust, 4 Boston ivy, 4 spirea, 3 Virginia creeper, 1 wistaria, 5 roses and 4 iris plants.

Fertilizers were added to field A4 in accordance with the plans of Soil Fertility Experiment No. 3 which comprises a test of various commercial fertilizers to determine their affect upon an area of land devoted to a four rotation of crops.

A tract of land known as the Holman tract which lies upon the "Sandy Ridge", about one mile from the Farm has been rented for one year for the purpose of running a duty of water experiment similar to No. 5. Work was begun on it this week and the ditches were cleaned out preparatory to applying the first irrigation.

During the week ending April 17, the maximum temperature was 83, minimum temperature 31, greatest daily range 41, and precipitation .15 inch.

Manure was applied to the plats in D4 that were to receive it. The land was plowed and alfalfa seeded upon the alfalfa plats.

The greater part of A4 was seeded to clover. A fairly good stand was secured on this land last fall, but owing to a vast number of cutworms that made their appearance this spring and fed upon it instead of the rye the entire crop was destroyed.

Field A2, A3, B1b, B5 and C2 were irrigated. Samples were taken before and after the irrigation of B1b and the work of Irrigation Experiment No. 5 begun for the year.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued)

Grasshoppers are again making their appearance. Although they are much more widespread than at this time last year it is yet too early to determine how the numbers compare. Many people are arranging to herd their poultry in the orchards and fields to keep them down. Poultry have been the most successful means of control that has yet been tried in this locality for the grasshopper pest.

During the week ending April 24, the maximum temperature was 84, minimum temperature 27, and greatest daily range 50.

Soil samples were taken and the alfalfa plats on the Holman tract were irrigated.

The dikes were completed and the plats releveled in D4. All were irrigated and it was found that the new system for handling the water works very satisfactory.

Two heavy frosts that occurred this week destroyed a large part of the fruit on the project. That which is on high land suffered but slight injury while practically all on the low land is dead. Several attempts were made at smudging with manure and other litter, but no smudge pots and oil were used. Many grape plants of the Farm were severely injured, and practically all the stone fruits were destroyed.

Scottsbluff.

On Monday and Tuesday of the week ending May 1, the land was too wet from the rain of the previous week to do much work. Most of the time was devoted to fencing and finishing the hog pastures, weighing and moving out the hogs. Wednesday and Thursday the land was dry enough for field work.

Some barley was seeded and the oat varieties were put in.

The oats and alfalfa on the irrigation rotation field were seeded.

Field "I" was partly backset and put in shape for planting corn.

On Friday and Saturday rain again interferred with field work and the time was put in working around the buildings, lawns, etc.

8 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

On field G Series V where the time of planting corn experiment is conducted the first lot was planted April 10, the second lot April 20, and the third lot April 30. On April 27, the first planted corn was out of the ground and was about 2 inches high on April 30, when the third planting was made. Corn planted April 20 is just nicely sprouted. We are afraid that the continuous moist and cool weather may affect the second planting of corn considerable, as it makes very little growth in this kind of weather.

Belle Fourche.

During the week ending May 1, the maximum temperature was 79, minimum temperature 39, and precipitation .87 inch. The total precipitation for the month of April was 2.58 inches.

The seeding of the small grains in the dry land rotations is completed.

Wheat, barley and flax have been planted in the irrigated rotations and seeding of oats commenced.

Field P fall irrigation experiment spring toothed and harrowed. Balance of field P double disced.

The ground for the variety testing of grains in field O has been spring toothed and double disced.

Field work is progressing very slowly owing to the frequent rains and the ground is so wet now that there will be several days before any field work is possible.

Huntley.

During the week ending May 1, the maximum temperature was 86, minimum temperature 38, and precipitation .13 inch.

In the following table are given the comparative weather records for the month of April during the past five years:

	1911	1912	1913	1914	1915
Precipitation, inches	.85	2.00	.43	1.16	.21
Mean Maximum Temperature	55	60	60	60	65
Mean Minimum Temperature	28	33	32	33	38
Mean Temperature	42	47	46	45	51
Evaporation	--	--	--	2.77	4.14

8 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (continued)

Alfalfa in fields AIII and AIV was irrigated.

Irrigation has been necessary much earlier this season than usual. In a few cases farmers have irrigated grain up. A rainfall of .92 inch during the past two days, however, will insure the germination of grain and beets.

Oats (Var. Swedish Select) were planted in all of field LIII and IV.

On April 28, two cows were started on a pasture test in plats AII-1, 2 and 4, similar to that carried on in 1914.

Mr. J. W. Knorr left on April 28 for New Mexico, to accept a position there as County Agent.

Mr. F. Doane, of the Dairy Division, of the Bureau of Animal Industry, and Mr. Carl Christopher visited the station on May 1.

Report of Field K for week ending April 24.

Beets and alfalfa were planted during the latter part of the week.

Five Duroc-Jarsey hogs were placed on the third year alfalfa in rotation 67, on April 24.

The following are the weights when turned in the pasture:

Hog No.	Initial Weight.
1	144
2	156
3	167
4	161
5	161
Total	789
Average ..	157.8

Truckee-Carson.

During the week ending April 24, the maximum temperature was 80, minimum temperature 34, and precipitation .28 inch.

Another cold frame was made to take care of the excess tomato plants grown in the hotbed and green house. The tomato, cabbage, pepper and egg plants in the hotbed and greenhouse were trans-

8 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

planted to greater distances than they were in the original rows. The varieties of onions for seed production were transplanted to A-1.

Field "Y" was harrowed to thoroughly cover the alfalfa and sweet clover seed which had been planted the previous week.

All the fields on the farm were irrigated with the exception of A-2, 3, 4, 5, 6, 7, H-1, 2, 3, 10, 11, 21, 22, 23, 24, 25 and Z.

The mess house was recovered with a two ply roofing paper.

A galvanized iron flume was purchased for the Tank House Hill, to replace the old wooden flume.

Two acres of mangels were planted on the farm of C. H. Hancock. The varieties used were Mammoth Golden Tankard and Giant Long Red. After this crop is harvested Mr. Cline will conduct a beet feeding test with dairy cows.

A field of about 1-1/4 acres Goldenvine field peas and barley was planted on the farm of L. W. Langford. This crop is to be used for a hog pasturing experiment later in the season.

San Antonio.

The maximum temperature for the week ending April 24 was 85, minimum 59, and greatest daily range, 20. Rain fell on all but two days during the week, the total precipitation for the period being 5.27 inches. During the 24 hour period from 8 AM the 18th until 8 AM the 19th the total precipitation was 3.11 inches. The greater part of this came in two short showers on Sunday afternoon. The heavy rains have caused much damage to the oats by causing lodging. The young cotton has come through the wet weather in fairly good condition and it appears that replanting will not be necessary except possibly one or two small areas last planted.

Only one days field work was done. On this day, all milo, sorghum for forage and a large of the corn were cultivated.

Mr. Hastings made a trip the later part of the week at Fredericksburg collecting plants.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Huntley.

Mr. Carl Christopher reports the following for the week ending April 24:

Sunday a trip was made to Shepherd for the prupose of arranging for the delivery of hog cholera serum to Dr. Dennis. The serum had been expressed to Dr. Dennis at Billings without his knowledge. Tuesday hog cholera warning posters were obtained from the printing office at Huntley and a trip made over the project distributing these warnings, and conferences were also held with all of the bankers on the project and their cooperation in controlling the cholera situation requested. Mr. Robertson, Mr. Greeg, and Mr. Franklin of Pompeys Pillar, were also seen and arrangements made to cooperate with them in keeping records on their dairy herds.

Wednesday the farms of Messrs. Mink, Brown, Hackney, and Myers were visited and milk samples tested for them. Samples of milk from 28 cows in all were tested.

Thursday Dr. Hartman of the State College, Bozeman, arrived and was taken to Mr. J. L. Simmons place near Ballantine, where hog cholera was suspected. Only one hog was sick in Mr. Simmons' herd. This hog showed some symptoms of cholera but we concluded that since the hog had been sick for two or three weeks and is now apparantly recovering, and in addition has been with the rest of the herd all the time and they have remained well, we were not warranted in pronouncing the case cholera. Mr. Simmons agreed to report promptly any further sickness.

We also investigated a reported outbreak of blackleg near Worden and found that four calves belonging to Mr. George Hofferber had died of this disease. Mr. Sheff, a neighbor of Mr. Hofferber, reported that the carcasses of these animals were dragged off into the woods and buried. This manner of disposing of the carcasses is, of course a menace to the future helath of cattle in this vicinity, but Dr. Hartman informs me that there is no law that will compel one to dispose of such carcasses properly. Mr. Sheff, who first reported the cases, says that all the cattle in this neighborhood have been vaccinated. This should prevent a serious outbreak.

We also visited Mr. Robertson's dairy herd and examined his cows, two of which are very lousy. We prescribed remedies

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DEMONSTRATIONS ON RECLAMATION PROJECTS
Field Notes.

Huntley (continued)

which should enable him to get rid of the lice.

Friday I went to Billings to secure supplies for my cow testing work. Saturday the farms of Messrs. Fricke, and Daylis were visited and samples of milk from their cows were tested.

Some damage has been done to alfalfa on the project by the armyworm, but no serious damage has been reported as yet. Water is being delivered to parts of the project to aid in the control of this pest. Rain is badly needed on the whole project.

Mr. Carl Christopher reports the following for the week ending May 1:

Sunday a trip was made to J. E. Mueller's place, near Worden, for the purpose of investigating a reported case of hog cholera in Mr. Mueller's herd. I found Mr. Mueller's hogs to be somewhat unthrifty but did not find any indications of cholera. Tuesday a trip was made to Ballantine to investigate another reported case of cholera, which did not prove to be cholera; in fact, the hog reported sick had completely recovered when I arrived. Cow testing work was also done for B. C. Bayliss on this date. Wednesday 200 notices of the cheese factory meeting to be held at Osborn were mailed. Thursday morning the Experiment Farm was visited and Thursday afternoon a trip was made to Shepherd to investigate further the hog cholera situation there. The cholera at Shepherd to date is confined to a single herd, that of J. F. Vines. Office and field work was performed on Friday. Rain commenced to fall Friday afternoon. Saturday was a very rainy day. Mr. C. F. Doane, Cheese Manufacturing Specialist of the Department of Agriculture, arrived Saturday morning. Saturday afternoon Mr. Doane and I visited the Experiment Farm.

Minidoka.

Mr. E. F. Rinehart reports the following for week ending April 24:

On Monday evening notice was received through the Reclamation Service that the sheep on the range southwest of the project were being poisoned. The outfits on this range (all belonging on the project) were visited Tuesday. There were four outfits on this range and each had lost a number of sheep. The symptoms resembled

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

poisoning by Death Camas and the camas together with one other unknown plant was sent in to be identified. One foreman thought that the trouble came from impure salt that all the sheep had had access to and samples of this was sent to the State Chemist.

The men are carrying on cooperative work in the growing of peas for hogging-off purposes were visited this week. Several of the swine growers and dairymen will also carry on cooperative tests comparing sugar mangels with sugar beets both as to yield and later as to results of feeding.

Four calls to inspect sick hogs were received. At only one are there indications of cholera. This is in a herd where the owner recently purchased a registered boar pig and a registered gilt. Because of the value of the animals a post mortem was not recommended. The sick animals were isolated in one corner of the farm. There are only six other hogs on the place. Of the other three cases investigated one was jaundice, one rheumatism and one case of feeding too heavily at time of farrowing.

Mr. Pratt of the Bureau of Plant Industry spent two days at Mr. Herman's arranging to carry on a cooperative potato growing contest in an effort to raise seed absolutely free from all infection.

The drought was broken this past week when showers and snow flurries occurred on Wednesday and Thursday. Heavy frosts occurred Thursday and Friday nights. Friday night the temperature dropped so low that ice formed. Pear, plum and peach trees and strawberry plants were in full bloom.

North Platte.

Mr. Fritz Knorr's report for the month of April is as follows:

On account of the late season and rain interfering occasionly with the farm work, the farmers are rather backward in putting in their crops. The indications are at the present time that a large acreage of land will be planted to grain in 1915, and many of the alfalfa fields of new seeding that are showing poor stands are being plowed up and put into grain. Two or three years ago such fields would have been allowed to remain in alfalfa, but on account of the high prices of grain and the low

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

price of hay the farmers will take no chances and prefer to plow up the alfalfa and grow grain instead of having a short crop from much poor stand of alfalfa.

A number of farms were visited during the month. One of the most interesting farms is north of the Experiment Station, lying in the sandy section where drifted soil has caused much trouble in the late years. A Mr. Hartwig owns an eighty and has purchased a very sandy eighty just north and across the road from his residence. He is putting into shape this spring and expects to put the greater part of this land into alfalfa. He says that he is not afraid of the "blow sand", if handled properly and feels that it will not give him any trouble whatever. His original eighty has considerable sand on it, and he knows how to handle such soil.

The other farm visited was that of Mr. T. C. Halley, one of our large sheep feeders. Mr. Halley has about 400 ewes from which he is raising lambs this spring. He has provided sheds with straw roofs as lamb quarters for his sheep. Most of his ewes had lambs during the hardest of our winter and losses from exposure were practically nothing. He has no provided cribs for his lambs and is feeding them on ground alfalfa hay and some grain in self-feeders. As soon as Mr. Halley has a little more time, he has promised us to go over this matter with us in detail, so that we may be able to make a full report of this work.

The following are the inquiries and calls made during the month:

Alfalfa.....	2	Shrubs and Plants.....	5
Corn.....	6	Sheep.....	2
Dairy	2	Pumpkins.....	1
Dipping Hogs..	2	Seep	2
Small Grain...	4	Selected seed for	2
Grain smut ...	2	Ordered milk-tester for..	2
Sugar beets ..	2	Mail	6
Small fruit...	3	Phone	7
Vegetables ...	2	General	23
Potatoes	3	Shamrock Meeting	20
Pasture	3	Creamery Meeting.....	32
Shade trees ..	3	Fair View School	10

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

The following indicates Mr. Jones' activities during the week ending April 24:

Requests for service	9
Callers at Office	5
Farms visited	13
Hogs represented in herds visited	588
Farms revisited during week	1
Demonstrations arranged with farmers	0
Cholera outbreaks found	0
Herds vaccinated	0
Hogs vaccinated	0
Hog houses, dipping vats, etc. planned	0
Treatments other than for cholera	1
For sore mouth in pigs	1
Meetings attended	1
Meetings held	0
Total attendance	0
Lectures given	0
Demonstrations given at meetings.	0

Other work.

Feeding:- One part was advised concerning a satisfactory ration for fattening hogs. No hog feeding demonstrations were arranged for.

Buildings:- No plans were furnished for buildings but plans for hog houses were discussed with two farmers.

Diseases:- Two supposed cases of hog cholera were reported, however, an investigation proved the trouble not to be cholera. One bunch of young pigs were treated for sore mouth. In one herd recently treated for sore mouth in pigs, it has been reported that the disease has not only been checked but that many of the affected are successfully recovering. Air slacked lime thrown in the pigs bed is being advocated where sore mouth occurs in addition to dipping the pigs two times per day in potassium pemongonte solution, 10 ounces per gallon of water.

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DEMONSTRATIONS ON RECLAMATION PROJECTS,
Field Notes.

Tieton.

Mr. R. P. Bean reports the following for the week ending April 24:

The first five days of the past week were spent at the farm survey work. The number of farms covered per day varied from four to twenty-two, with an average of twelve. The day on which four visits were made was an especially interesting day, however, for the farms were worth studying.

Mr. Tully has an excellent herd of Poland China hogs and has taken good care of them. He has both grades and pure breds but will reserve only sows of pure breeding this year. He feeds principally alfalfa hay or pasture but supplements it with grain. At present his brood sows are receiving a slop of rolled barley with a little shorts and a few carrots. The hogs will probably be finished on corn and wheat.

Mr. Eakin is a fair example of many Tieton farmers, having invested his capital in land during the "boom" times. Although he owns considerable property his "working capital" is very small. He is also typical in being an optimistic worker and in that his affairs are gradually improving. His one cow, an Aryshire, is a good individual and he is slowly getting a herd of pure bred Poland Chinas. His remark "We have learned to get along without money" explains many circumstances to be found on the Tieton. There is some corn in Mr. Eakin's crib and a good alfalfa pasture for the pigs. He will grow a few acres of potatoes as a money crop, will seed more alfalfa and raise corn.

Contagious abortion exists to a small extent on the project and, due to the scarcity of good bulls, is causing considerable difficulty. The bull owners do not like to rent their animals and the cow owners who have no bull face a serious predicament. They have wanted to breed to the best bulls available and the men who own them are the ones who refuse to breed outside their own herds. Of course the owners of poor bulls will usually take a chance for the sake of the fee. The great majority of the cow owners have from two to five animals and cannot afford to buy a sire. Cooperative buying has been suggested for with proper precautions it would solve the problem.

Mr. Miller is the only Wide Hollow farmer on Tieton land who has a silo. Although improperly constructed according to his own experience it has given fairly good service. His

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

opinion of silage expressed to his neighbors is always a good word for better dairying.

However, there are several men who would build silos at once but that they have not the money. We hope that several of these will grow root crops this season so that their cows will not have to eat alfalfa hay "straight" next winter. There have been a few failures with sugar beets and stock beets but carrots grow very well. The article "Feeding Alfalfa" on page 516 of Hoards Dairyman for April 23, is of special value at this time.

The interest in mixed grass pastures continues and there will be no difficulty in having data on Tieton pastures next season. Messrs. Johnson and Daudelin have asked for assistance in corn growing, especially in regard to seed selection. These will make four acre plots of corn grown principally for seed this season. There has not been enough Tieton seed corn to meet the demand this spring.

Mr. Johnson also has an acre of Canadian field peas and Mr. Miller has Bangalia peas which were recommended him by the State Experiment Station. Field peas are reported to be a poor crop for the Tieton but these two plots will furnish further data. Both will be "hogged off" and are grown instead of corn.

Meetings Attended during April.

Cottonwood School House: Friday evening, April 2, 1915. A meeting of the Neighbors' Club, the organization of the Cottonwood school district. The regular program was of music, a recitation and a debate. The question was "Resolved that dairying is a desirable industry for the Cottonwood Canon."

This club meets every other week with a scheduled program and for the discussion of whatever matters concern the community. At this meeting three representatives were chosen to meet woth other clubs for the purpose of obtaining a better knowledge of what is happening in other communities. Attendance, 30.

Naches Heights Commercial Association: Monday evening, April 5, 1915. This Association has a hall for its own use which was built principally by donation of work and materials by members. It holds regular meetings for the discussion of topics of interest to the members in a commercial way and as members of the community. The hall is also used for dances and entertainments.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

Mr. Harrison, a deputy for the Horticultural work in the Valley talked of the progress of disease control this season and of the general outlook of the fruit crop.

The resolution for the cooperation of fruit growers under the leadership of Mr. Paulhamus was presented and discussed.

Attendance, 20.

Tieton View School: Tuesday evening, April 6, 1915. This was a Water Unders' meeting such as has been held in several communities to discuss matters of interest to the water users as such. Mr. Bennett, who was elected as a member of the board of review of the project cost, lead the discussion of the matter of reviewing the cost of the project.

Attendance, 40.

Cowichee School House: Wednesday evening, April 7, 1915. A "call" meeting to meet Mr. Byron Hunter, State Leader of County Agriculturists, who talked of the work of county agriculturists. This was at the time when it was hoped that Yakima county would apply for an agriculturist.

Attendance, 11.

Willow Lawn School: Friday evening, April 9, 1915. A meeting of the Parents and Teachers Association for the regular program. This program was dispensed with and a lady from North Yakima talked of the situation in the country over which the European war is being fought and of the soldiers engaged.

Attendance, 25.

At each of these meetings, except the last, Mr. Finley, Assistant Project Manager, introduced me with a brief review of the happenings leading to the assignment of an agriculturist to the Tieton Project.

My talk at each meeting began with a general outline of how our service hopes to assist in solving farm problems, discussing questions of interest and helping "good farming" in a practical manner.

I spoke of the value of the "dairy, hog, alfalfa and corn" combination and of its peculiar application to Tieton conditions. The great majority of Tieton men agree that "Raise what you feed and feed what you raise" is profitable farming.

There followed in each case a discussion of whatever questions were raised and it was attempted to keep as much of the discussion as possible in the audience. In this manner I was able to obtain the points of view of several men on each

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

topic and to get in better touch with the most important questions of each community.

I did not talk at the Cowichee meeting at which Mr. Hunter was present. His lecture was sufficiently long and the attendance was poor. I am to learn of a regular meeting at an early date at which the attendance will warrant a good evening.

Mr. R. P. Bean reports the following for the week ending May 1:

Mr. Selleck called for a visit to the alfalfa fields in the northern end of the project. These fields are from three to five years old and have given very satisfactory yields up to last year. A few yellow spots appeared in different sections of the fields and have gradually increased in number and size. The yellow plants grow only from four to six inches high and will blossom at that stage. There is practically no growth even after cutting or watering, and hence the crop over these spots which in some cases cover over half of the fields is nearly worthless.

The soil conditions are practically uniform for the affected section. The surface soil is from three to eight inches of sandy loam. This gradually differentiates into the sandy clay subsoil which has a very evident cementing property and becomes harder as it goes deeper. A chalky layer is found next which crumbles when exposed to the air. This is from three to seven feet from the surface and is underlaid with a more or less impervious hard pan.

The surface and sub-drainage are satisfactory. There are evidently spots in the hard pan through which the excessive water drains away for the subsoil, though moist, does not contain free water. The areas of good and poor alfalfa are not distributed according to regions of little or excessive moisture. There are both good and poor spots just below the flumes and through the middle ofthe fields. In one case some very healthy plants are growing where the waste water usually stands for some time at a lower corner of the field.

Inoculation is uniformly good. There does not appear to be any difference between the soil under good plants and poor ones. The plants are normal and whole as to leaf and root. The poor plants have much smaller roots than have the good ones. The condition is general over low flat land, higher level fields and sloping tracts.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

Two days were spent in this section in taking farm surveys and studying the fields. So far there is a contradiction for every supposition advanced.

Hog cholera has appeared in the valley, though not yet on the project. A Mr. Whitson has a herd on his fruit farm near the Tieton land and has had the disease for some time. He has been trying to handle the disease with his own remedies but the losses brought him to call in a veterinarian who vaccinated the herd. A pure bred sow, a grade sow with her five pigs and a shoat are dead. Twenty-three head were vaccinated. Mr. Whitson is positive that the disease came with the pure bred sow which he recently bought of a breeder in the valley who has been loosing pigs this spring. This breeder says he has not had trouble with cholera.

Mr. Huntable has a very productive clover pasture. On it he pastured about 100 spring pigs last season, also six cows and their spring calves. The cows received all the alfalfa hay they would eat in the morning before they were turned on pasture. This season he will plant a six acre adjacent field to corn and hog it off. Rape will probably be included in the corn field, sown with the last cultivation.

Mr. Dudgeon, who has been in the fruit business for the last nine years, has taken a three year lease on twenty acres, ten of which are in orchard. He will buy either sheep or hogs this season. There are three and a half acres of alfalfa seeded now. There are six and a half acres of good plow land suitable for corn. He plans to seed the orchard to alfalfa this year. All of Mr. Dudgeon'd operation will be available for our use.

The farm survey of the Wide Hollow country (the southern end of the project) is practically completed. It is estimated that this is nearly a half of the work of the whole survey. It is a smaller part in population and acreage but the other is more thickly settled, with better roads and less questioning is anticipated in the older settled part of the project. There are 1200 farm units on the project but the number of surveys taken will fall far below that number. In many cases one man operates two or more units and there are several fruit ranches whose owners hire men to cultivate the land.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

HAIRLESS PIGS.

Many ranchers have reported having had pigs farrowed without hair. These pigs have been well formed and of good size but evidently lacked vitality for, with the exception of two litters which will be mentioned later, they died soon after birth.

In most cases the sows which farrowed these pigs were fed principally upon cooked potatoes, at least cooked tubers formed a principal part of their ration. Alfalfa hay was usually fed in combination with the potatoes and occassionally a little grain was included in the ration.

One of the litters so farrowed which lived and are now in perfect health though practically hairless had some hair when born. They have been an exception to the general rule all along for they have had good growths although kept for some time in a very dirty pen.

Another of the litters born partially hairless and which lived are now naturally covered and doing well. In this case Mr. Huxstable fed his brrod sows some moldy corn ensilage. The sows began farrowing with very poor success until he stopped feeding the silage. The last few litters have been more satisfactory.

Another instance which has come to my attention is of Mr. Glascock. He fed two sows enough rolled barley and alfalfa hay all winter to keep them in good shape. A few weeks before farrowing he substituted corn for barley. He reports well formed live pigs without hair which all died in a few hours. No potatoes were fed in this case. The land is quite well filled with black alkali and the water is very soft, coming from a deep well. In the other cases the water used was irrigation water stored in cisterns.

It was quite generally conceded that the trouble was due to too much potato feeding, especially with little or no grain. Mr. Glascock and Mr. Huxstable bring evidence which cause us to question the potato explanation. Inasmuch as these two cases were recently reported more attention is being given the situation now.

8 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone.

For the week ending April 24 Mr. Magruder reports activity among the farmers of the project as follows:

Two men were advised concerning sterile cows. There is much complaint of sterile cows. The principal reason suggested is that the cattle are so generally fed on alfalfa alone.

An article was written for the local papers discussing the visit of the dairy experts and their criticisms of the cream and suggesting means of improving it.

Feeding of sheep was discussed with one man who has had two years experience in feeding sheep which he bought from sheep herders in the hills. He says that he cleared very little money but that he believes it can be made profitable.

One man discussed the loss of a mare from difficulty in floaling. Difficulty with the birth of young is a general trouble here, due many think to the high protein content of the alfalfa feed.

One man was visited regarding one of his cows which has a very badly swollen udder. A treatment of hot water applications and rubbing with vaseline was advised.

One man was conferred with concerning the purchase of sheep for breeding purposes, with the intention of selling registered rams to the herders in the mountains.

One man was conferred with concerning the dying of the crowns in his alfalfa which was sown last spring. This is causing much trouble this year. Some men think it is due to alkali, some to the dry winter and some to a disease.

Two men discussed the advisability of raising stock hogs for the feeders of the corn states, saying they had raised several carloads for this purpose and that it is profitable.

One man complained of the water from his drilled well which he has used for two years. He says his cows increased 20% in production after they could drink from the irrigation ditches. He says the same trouble is experienced on two of the farms that join him, while on another adjoining farm the water is good.

The raising of horses is considered one of the profitable farm operations. There is need and demand for some good stallions here, as there are only five here now and none of them extra good. Many horses are raised here on nothing but refuse alfalfa hay.

8 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

One man was advised concerning pasture for his cattle of which he has 38 head in all, eight of them being in milk. Very little is done here in regard to pasture for cattle. Some experimenting is being done with sweet clover. Alfalfa is pastured to some extent but there is much fear of loss from bloat.

The cooperative creamery was visited by G. E. Frevert, who has charge of dairy investigations in the West for the U. S. Department of Agriculture, and E. F. Burton who has charge of the dairy work in the State. They gave much helful advice concerning the operations of the creamery and the sale of the product.

One of the managers at the creamery was conferred with regarding the time of delivery of cream by the farmers. Under the present arrangement the farmers are required to deliver cream on Monday, Wednesday and Friday before eleven A.M. on account of convenience of operating the creamery. This arrangement makes the delivery of the cream difficult for some farmers who do all of their own work, because it often necessitates leaving four horses idle while the cream is being delivered. These farmers want the privilege of delivering at any time so that the cream can be delivered when either they or their wives come to town on any errand. Under the present conditions the cream is often very old when delivered, especially as very little care is taken of it. Perhaps cream haulers might be hired to an advantage.

Samples of butter from two churnings were scored and a decided cut made on flavor due to old cream. Among other things they suggested that the farmers be urged to take better care of the cream and to deliver it oftener; that the cream be churned sooner after it is pasturized; that a Friday butter printing outfit be obtained; that the wash water be more fully removed from the churn before the salt is added; that an arrangement be made for steaming the cream out of the cans, then washing the cans out with warm water and a brush and then steaming them again before they are returned to the farmers; and that the small creameries of Wyoming cooperate in hiring a man to sell the products.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

Concerning the pound of butter which was sent to the University of Minnesota for scoring, the following letter was received from Prof. Washburn, of the Division of Dairy Husbandry:-

"In tardy reply to your favor of March 26th, I beg to state that the butter arrived March 31st, was rather warm, in fact too warm to be properly scored when received.

Enclosed please find slip upon which I have indicated my judgement of the butter in question.

Score	Scale	Given
Flavor	45	38
Grain	25	22
Color	15	15
Salt	10	10
Package	5	5
	100	90

Flavor 38. Cream was not prime from which butter was made.

Body 22. I might even have made it less. It was very brittle; short grained, almost granulated; had tallowy character. I have seen butter of like grain made from milk from cotton seed meal fed cows, and I understand that a similar character is imparted by alfalfa, though I have not had opportunity to prove that point. Taking flavor and grain together into account, a score of 90 is all it is worth."

One lady was advised concerning caring for currants.

Two ladies were advised about some economics bulletins for a ladies' club.

One man was visited about official records.

15 May, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

San Antonio.

The maximum temperature for the week ending May 1st was 83, minimum, 63, and greatest daily range, 18. The total precipitation for the week was 2.34 inches. The total precipitation at the experiment farm for the month of April was 9.05 inches. With the exception of September 1913, this is the highest monthly precipitation recorded during the history of the San Antonio Station. During the month of April, 1914 the total precipitation was 6.08 inches.

No field work was possible until Friday. On Friday and Saturday, practically all of the corn, sorghum and cotton was cultivated. Several of the orchards were also cultivated. Part of the cotton on field C5 was planted over, the stand secured from the first planting was so unsatisfactory.

Two extra laborers were employed on Friday and Saturday for weeding. On Saturday the entire scientific and office force assisted with cutting weeds. All corn in the rotation experiments was thinned as well as that in the corn and cowpea experiment on field C3. Practically all of the rotation plats were gone over and weeded.

The first part of the week was utilized in working on the fence around the new tract of land, in making cement posts and in miscellaneous work.

WEATHER CONDITIONS.

The weather conditions during the past month have been very exceptional. The total rainfall for the month of April was 9,05 inches. The greatest precipitation in any one day was on April 18th when 3.11 inches of rain fell. There were 13 days when there was some precipitation and there were only 4 clear days during the entire month while there were 18 cloudy days.

With all this precipitation as is to be expected, considerable damage was done to crops although we were more fortunate here at the farm than on many of the surrounding farms. It was necessary to replant the greater part of the cotton experiments conducted by Mr. Cook's office but the cotton and other crops in the rotation experiments came through with surprisingly little damage considering the weather conditions.

15 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

The severe rains caused the streams about here to be very high but with the exception of Austin no severe damage was done. The San Antonio river was up to the danger point two different times but did not reach the high stage of last fall or spring.

The greatest damage to the farmers about here was caused by washing on the fields that have any considerable slope and by weeds, especially in the black lands. I don't believe I have ever seen the black land farms in such bad shape as they are this spring. Up to this present week there were nearly three weeks when it was impossible to work this heavy land to any advantage and the result is that weeds are in a very flourishing condition. In some few localities hail has done some damage but the areas damaged by hail are very local and widely scattered. About 10 miles south of the farm the hail was severe enough to destroy all the crops and severely injure the fruit trees.

Reports from the Medina dam show that the water is running over the spillway for the first time and the water below the dam is so high that the river cannot be crossed in a machine so they are constructing a bridge at the ford about 5 miles below the dam. Irrigated land in this section is not selling at a premium just now.

Truckee-Carson.

During the week ending May 1, the maximum temperature was 78, minimum temperature 27.

A total precipitation of 1.16 inches occurred during the latter part of the week. Freezing weather occurred at the same time. Previous to this freeze there were prospects of an abundant fruit crop, but the frosts killed the greater part of the fruit. It is reported from some sections of the project that all the fruit was taken.

Some of the fields of alfalfa were frozen to such an extent that the farmers are cutting it. At the Experiment Farm and in the immediate vicinity of Fallon the alfalfa was practically uninjured by the frost but was bent nearly to the ground by the weight of the blanket of wet snow.

15 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Mr. J. H. Bailey reported that he was unable to control the black aphis, which were numerous on his rose bushes and ornamental trees, by means of spraying solution recommended by the experiment farm. In order to find the cause of his inability to control the pest Mr. Headley visited the farm and sprayed a number of the trees and bushes with "Black Leaf 40". Practically all the Lice were killed with one spraying. Mr. Bailey did not get results for the reason that he did not know how to spray the under side of the leaves.

A circular on the "Control of Grasshoppers" was issued. Mr. G. G. Schweis, assistant entomologist of the University of Nevada, during a recent visit to this project, found indications that grasshoppers would again be numerous. Mr. Schweis wrote a letter to Mr. Headley on the subject of controlling grasshoppers and it is this letter which was issued as a circular letter.

Scottsbluff.

Dairy Report for the Month of April.

The month of April was very hard on the cows due to many cold rains and unusual cold weather for this time of the year. In spite of this the cows did fairly weel. Below I am giving the record of the cows for the month.

Pounds Milk	Butterfat					Concentrates		Hay		Profit or Loss
	Av. Test	Total	Market Price	Value of	Cost of	Lbs.	Value	Lbs	Value	
Wonder 783.6	4.2	32.91	24¢	7.89	14.6	186	2.79	808	2.02	+3.08
Rose 739.5	3.4	25.13	24¢	6.03	16.5	142	2.13	808	2.02	+1.88
Marie 833.7	2.8	23.34	24¢	5.60	21.5	200	3.00	808	2.02	+0.58
Mabel 1105 9	2.4	26.54	24¢	6.36	23.9	272	4.08	808	2.02	+0.26
Beauty 901.5	3.5	31.55	24¢	7.57	16.4	211	3.16	808	2.02	+2.39
Maud 831.6	3.0	24.94	24¢	5.98	19.8	195	2.92	808	2.02	+1.04

15 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

The average price of butterfat for the month ranged 1¢ higher than the month previous. The last week in March and the first week in April the price of butterfat was 22 cents, and at the end of April it went to 26 cents.

Photographs of the herd accompany this report.

During the week ending May 8 the corn and potato ground on field I was backset. The corn was planted and the land was put in shape for planting potatoes. On account of the cold weather we are in no hurry to plant the potatoes. The flax was seeded on the irrigated rotation field, also the variety of flax on field B Series II.

The men were employed mostly on edging up plats and cleaning up ditches. The weather was very cold during the week, two days the thermometer fell to 26 degrees. The sugar beets that were up froze back; in fact many of them were killed. Some of the corn that is out of the ground is completely frozen back. The alfalfa is not injured, but has made no growth. Oats and barley did not suffer any, but it was too cold for these two grains to do any good. Most of the fruit buds of the plum, cherries and strawberries were frozen.

Huntley.

During the week ending May 8, the maximum temperature was 63, minimum temperature 28, and precipitation 1.15 inches.

No field work could be done the forepart of the week because of rain. On the last three days of the week the teams were employed in preparing land in field K for seeding oats and corn, and preparing corn plats in field H.

Five varieties of apples, four varieties of crab apples, four varieties of sour cherries and five varieties of plums were received and set out in the orchard.

15 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche.

During the week ending May 8, the maximum temperature was 79, minimum temperature 28, and precipitation .16 inch.

The first half of the week no field work could be done due to the rains of the previous week.

During the week the following varieties of trees and shrubs were set out on the grounds:

Highbush cranberries	43	Russian olive	20
Buffalo berries	6	Purple barberry	19
Common snowball	21	Green ash	4
Buckthorn	100	Lilac	36
Soft maple	4	Golden elder	8
Yellow currant	13	Norway poplar	17
Basswood	8	Carolina poplar	10
Lombardy poplar	13	Common elder	24
Diamond willow	5	Siberian dogwood	21
White elm	40	Green ash	7
Tartarian honeysuckle	12	Spirea opulifolia	10
Mock orange	10	Spirea sorbifolia	5
Common barberry	7	Spirea Van Houte	8
Rosa rugosa	40	Laurel leafed willow	4
Silver leafed poplar	5	White burch	5

This practically completes the planting of the grounds.

A new cistern was put in for the barn and the laying of sidewalks between the buildings commenced.

The seeding of the oats in the irrigated rotations were completed and the planting of the grain varieties in field O, commenced. The wheat, flax, barley and oats were planted in the fall irrigation experiment. All the ground in the irrigated rotations has been prepared for planting and the sugar beets, potatoes, alfalfa and corn will be planted at once if conditions permit.

The alfalfa plat in rotation 65 AIII-15, to be pastured was fenced and four hogs, total weight 499 pounds were turned on May 5. An additional six-year rotation has been added, consisting of alfalfa 3 years, corn 2 years, and oats 1 year. The third year alfalfa to be hogged and also the two corn plats. Alfalfa to be seeded after the grain crop has been removed. In this rotation, Plat AII-34 was fenced and five hogs, total weight 595 pounds were turned on May 5.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

During the week ending May 1, arrangements were made with Mr. H. J. Lenhart for conducting feeding demonstrations during the summer. The hogs used will be last fall and this spring's shoats. They will have access to a large alfalfa field and will receive about a 2 per cent corn ration. A similar demonstration will probably be held on the farm of Mr. J. P. Lenhart.

Letters of general instruction were sent out during the week to pig club members who have been enrolled, as were also letters of invitation to other boys to join the clubs.

Five calls were received during the week from farmers whose hogs were suspected of having cholera. No outbreaks were found, however.

Shoshone.

E. F. Burton, State Dairyman, assisted in the work from Monday afternoon till Saturday morning.

Two men were consulted and three others visited regarding the damaged condition of the alfalfa. Samples of damaged alfalfa were taken under four different conditions, and sent to the Department at Washington.

Much of the alfalfa appears to have died out this spring. In spots none appear at all, the crown and root appearing to be dead for as much as three inches below the surface. Some of the farmers who have alfalfa in this condition are breaking it up, while others are leaving it, since much is now appearing above the ground which a few days ago was thought dead, and also digging shows much sprouting out which has not yet appeared above ground.

Wheat was obtained for the Boys Pork and Crop Production Club.

The manager of the cooperative creamery was consulted regarding a system of book keeping. A suggested plan was written out and presented to him.

The organization of a bull club was discussed with several of the dairymen visited, but nothing definite was accomplished.

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes:

Shoshone (continued)

Mr. Magruder reports the following for week ending May 8:

Seed what was given out to one of the boys in the Pork and Crop Production Club. Up to date there are eleven boys still enrolled in that club, fourteen in the Potato Club and eight in the Poultry Club.

Mr. D. H. Doane of the Dairy department of the Department of Agriculture was here about two days to advise regarding the introduction of the cheese industry here. Seven of the most influential men were visited, and the cheese proposition discussed with them.

Letters had been sent to all of the farmers who are delivering cream to the creamery, explaining the purpose of Mr. Doane's visit and inviting them to a meeting to discuss the matter with Mr. Doane. Eleven attended the meeting, which was held at night so all could attend without interferring with their work and the weather was quite favorable. So it would seem that the dairymen as a whole, are not greatly interested at present.

Mr. Doane advised that equipment be installed in the cooperative creamery for making cheese, to at least supply the local demand, and to use the whole milk of those farmers who will deliver whole milk daily; but that the creamery should still continue to receive cream from those farmers, who have too few cows or live too far from the creamery to deliver whole milk daily.

An article was written for the local paper, stating Mr. Doane's advice about cheese making on the Project.

One man had five hogs die in one day. One of them was dissected, fearing cholera, but the dissection did not show distinct symptoms of cholera. The owner stated that the hogs had been turned on alfalfa pasture and because they became constipated, he had shut them in a lot and physiced them with salts. Then they were turned into a lot which appeared bare, but which proved to have a growth of young cockleburrs. The conclusion was made that the hogs had been poisoned by eating the young cockleburrs. All of the hogs have been slightly sick for a few days. Some which were quite sick have recovered. No cholera is known on the Project and the only possibility known of those hogs getting cholera, is feeding corn which had been shipped in.

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

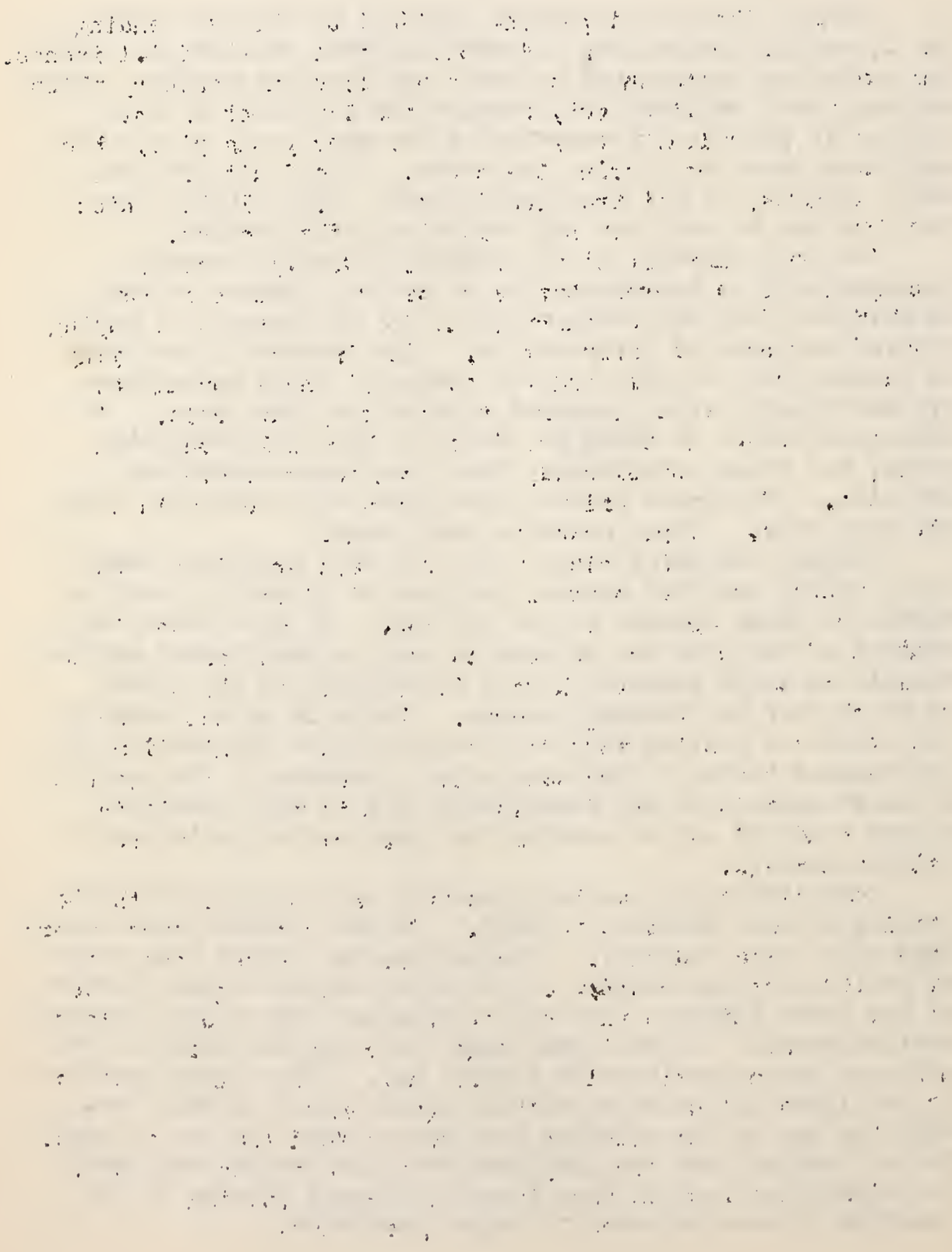
Truckee-Carson.

Perhaps the most important incident of the week ending May 1, was the heavy rain and snowfall that totalled 1.1 inches. The storm was accompanied by frost and freezing weather, which was very hard on livestock, because the livestock in this section is practically unprotected and many young pigs, sheep and lambs were lost during the storm. The fruit crop was badly damaged, if not practically lost. The alfalfa which was from one to two feet high was also badly frosted.

The local manager of the Churchill County Creamery, accompanied by a representative of several farmers is now in Northern Utah and Southern Idaho for the purpose of buying several carloads of dairy cattle. The interest in dairying is growing very rapidly and the ideals of those buying cows are materially raised compared to what they have been. A strenuous effort is being put forth to have all foundation herds, now being established, free from tuberculosis and abortion. Fifty-six animals were given the tuberculin test the past week. Three reactors were found.

Through the Dairy club, which has been organized among rural school childred between the ages of 10 and 16, much interest has been aroused in cow testing. In most cases the members of the club are abxious to test or have tested all the animals in their parents' herds, in addition to the three on which they are keeping records. While it is not expected that this cow testing work will result in the elimination of any animals tested in the near future, because of the scarcity of dairy animals of any description, yet it will result in closer study of cattle showing the great variation in profit between animals.

Some difficulty has been reported in connection with the feeding of beet molasses to hogs. On two ranches seven mature hogs died quite suddenly. The post mortem showed some signs of cholera but the history of the cases and subsequent history of the herds indicate that the trouble was due to over feeding beet molasses. A great many hogs are being fed diluted beet molasses in connection with alfalfa hay. The common practice is to dilute the molasses with an equal amount of water and soak the hay in the solution and then to feed the hay to hogs. No bad results have been reported when this method was used. The disastrous results came from too liberal feeding of the straight diluted molasses in large quantities.



15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.

Mr. E. F. Rinehart reports the following for week ending May 1:-

Dr. C. W. Sims of Rupert has recently been appointed Deputy State Veterinarian to work in the section covered by the Hog Cholera Control Work. The farms quarantined during the first half of March were still held under quarantine, as there was no one to release them. Since March 15th infected farms were not quarantined.

On Monday Dr. Sims was accompanied on a trip to all quarantined farms. These were all on the South Side. All had been cleaned and disinfected. The farm of Mr. Ingstrum was not in a condition to release on this date, however, and was held in quarantine one day longer until the requirements were met and the farm disinfected according to the rules of the Department.

On Friday afternoon the infected farms on the North Side were visited. Both were cleaned up in regard to the manure and litter, but, as no disinfectants had been used, they were not released. They will be disinfected next week under the direct supervision of the State and Federal men.

In the report for the week ending April 3rd, it was stated that it was impossible to locate the source of infection in the herd of the Beebe Bros. It now appears that the infection came not from the South Side but from Nebraska. Mr. Kirkpatrick who lived in Nebraska lost practically all his hogs from cholera during the past winter. The first of March he moved all his machinery and livestock, including six immunized hogs, to the farm opposite Beebes. The shoats from the Beebe farm ran at large. There were also a number of pigeons on this farm. It is believed that the infection was carried into the State by manure on the machinery or perhaps in the litter in the stock or poultry crates.

The weather for the week was very warm up to Thursday night. On Thursday night there was a steady rain that turned to snow towards morning. Friday night a heavy snow fell. The moisture was much needed by both the irrigation and dry farmers. As yet no damage has been done by the storm except that the snow broke many branches on the trees, all of which are in full leaf.

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley.

Rain and consequent heavy roads prevented outside work during the greater part of the week ending May 8.

The cheese factory meeting arranged for Monday nith was postponed on this account until Mr. Doane returns again some time in June.

Wednesday, Thursday, and a portion of Saturday were devoted to cow-testing work.

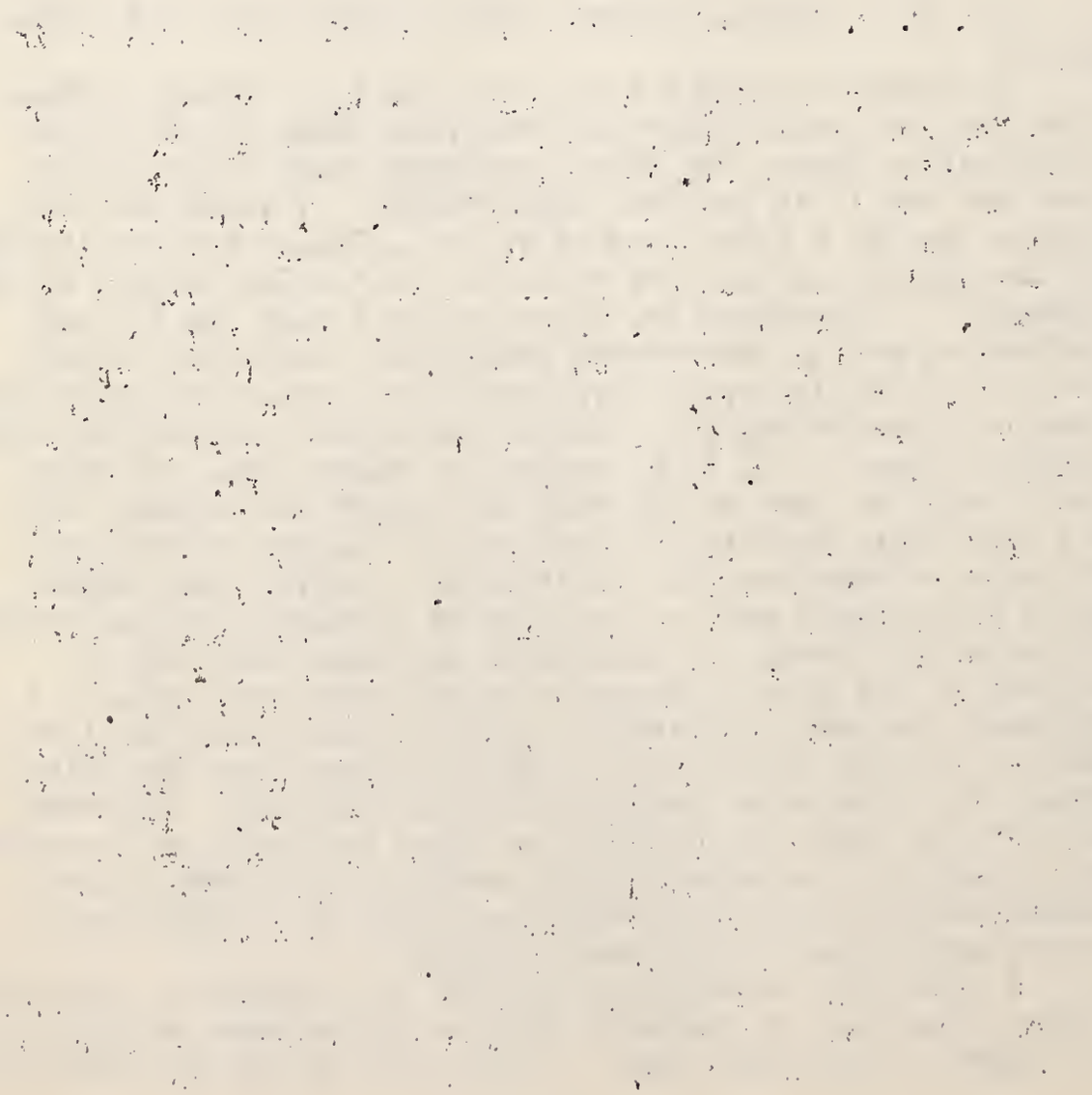
Boise.

Mr. H. A. Ireland reports the following the week ending May 1.

On Monday morning a call came from L. L. Young of Nampa that hog cholera had been reported near Nampa by the local veterinarian there, Mr. Young requesting that I look up the case and see if it had been quarantined. I found that the disease was on a farm occupied by D. L. Wilson who had lost all of his spring pigs but one which was in the last stages of some disease. I persuaded Mr. Wilson to kill this pig for the purpose of making post-mortem examination and found typical lesions of hog cholera. Mr. Wilson was advised regarding the need of disinfecting the premises and agreed to clean up everything at once. Mr. J. S. Heilner of Baker, Ore. and Nampa has a bunch of hogs on the same farm under Mr. Wilson's care and upon being notified that there was cholera on the place he asked to have his hogs vaccinated. County Agent McCall and I accordingly went to the farm on Wednesday and vaccinated a part of the herd, not being able to finish the work on account of the lack of proper pens and sufficient help. I finished the work on Thursday, on which day I found another case of cholera on the farm of Iver Peterson near the Wilson Place, and vaccinated ten head for Mr. Peterson. The state authorities have been notified of these two cases and requested to look out for others in the vicinity but I shall give considerable attention to the case myself as I do not have entire confidence in the local deputy.

I have been requested to talk on the subject of hog cholera before a meeting of the Nampa Chamber of Commerce soon but do not know at just what time. I shall try to get this date as





DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

early as possible in order to take advantage of the present interest in the subject which exists because of the presence of the disease at this time. Cholera was extremely bad around Nampa during much of the year of 1913, having been on both of the farms where the infection has broken out this year.

The meeting at the Sunny Slope school house on Tuesday night was not for the purpose of discussing the summer school idea; but I had been asked to be present to speak on the subject. Considerable interest seems to exist in the idea and it is believed that it can be developed. About 100 persons were present at the meeting.

The survey work progresses slowly, on account of other things that arise. Only one day this week has been spent at that work, an unusual storm preventing any field work on Friday and Saturday. After the hottest April day for several years on Wednesday a sudden drop in the temperature occurred on Thursday, with rain which changed to snow in the evening. Several inches of snow fell during the night and the thermometer went down below freezing although the snow prevented any damage to fruit or crops in this section. Snow and rain continued alternately all day Friday with low temperature and strong northerly wind. With a rise in temperature Friday night snow gave place to rain which has continued nearly all day Saturday. Unless frost or freezing temperature follows, great benefit will be derived from the precipitation as the ground has been very dry and the prospects for water during the season has been the worst for years. Not only has considerable moisture been put into the soil, but considerable snow has been added to the supply in the mountains.

Numerous reports are coming in of threatened injury to crops by grasshoppers from various parts of the Project. Hoppers were very numerous in the Wilder and Greenleaf sections last year, causing entire loss of the clover seed crop in many cases and doing considerable damage to some other crops. This year they appear to be present in greater numbers than during the past season and it is feared that unless prompt measures are taken to control them, the clover seed crop, upon which many settlers depend for a cash crop, will be an entire failure again. Newspaper articles, including formula for poison baits and sprays, will be published in the County paper next week.

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton.

Mr. Bean reports as follows for the week ending May 8:

On Monday the Tieton Water Users' Association met to discuss matters pertaining to the work of the Board of Survey for project costs. For this reason no farm surveys were attempted, but several persons called at the office for consultation.

Saturday was devoted to office work, and Mr. Lashbrook, who is engaged in dairy extension work in the valley, spent a part of the day in the office. His work is more particularly in the Wenas and Athanum portions of the valley, where attempts are being made to establish cow-testing associations. As these sections border on the Tieton project, his work is of much interest.

The remainder of the week was spent in making farm surveys in the Cowichee Valley. Fifteen surveys were taken. This section is farther advanced in the dairy industry than any heretofore visited. The interest shown is extremely gratifying, for in nearly every case the farmer suggested going over his stock, equipment, and operations, regardless of the time required. The marketing side of the business is especially inadequate, for the cream is gathered and shipped to North Yakima at considerable expense, both as to the price of butterfat and the quality thereof. There is much interest in a cooperative creamery for the Valley, and work in this direction would undoubtedly meet with hearty support, but inasmuch as there are fewer than 500 cows within a reasonable radius of a desirable location, there is some question as to the practicability of such an enterprise.

The greater part of Friday afternoon was spent in looking over a 25-acre field of alfalfa, rented by Messrs. Oberg and Olds. The indications are that the crop will not pay the expenses incurred. Ten acres of the field are impossible of irrigation, on account of the ravages of rats, mice, and ants, which have literally honeycombed the ground. A five-acre tract is in little better condition, and the other ten acres will undoubtedly irrigate fairly well, as it was plowed and cropped several years ago, having been re-seeded three years. This whole field was double disked, double spring-toothed, and finally harrowed with a spike-tooth previous to ditching.

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

It is in excellent condition. This was done at an outlay of $96. It was costing $5.00 a day for labor alone to water an acre, taking two days with 31 points of water flowing at the rate of a full inch stream per ditch to cross a square ten-acre field.

The natural moisture was within a half inch of the surface and there was an excellent supply. The irrigation water undoubtedly disappears into a gravel substratum. It was finally decided to postpone irrigation until after the first crop is harvested for the first cutting will not pay for the added expense of watering. At that time if it seems advisable to do anything more with the field it will probably be ditched again and water carried down behind the ditcher.

The whole field of alfalfa is not growing satisfactorily, especially in view of the plentiful supply of moisture this spring and the excellent condition of the soil. The ten acres which were resseded three years ago shows a decided yellow cast which is quite uniform. The other fifteen acres have only a fair color broken in places with a yellow cast. It was suggested to plow under a small part of the field and plant corn with a view of experimentally renovating the land by cultivation and the application of manure. The whole field was seeded to alfalfa about 10 years ago and has been cropped continuously with the exception of the ten acres which were probably sown to wheat for two or three years.

One call was received for tuberculin test. This is the first sign of interest in the control of the disease. The owner has two cows whose appearnce put them under suspicion. He intends to add to his herd, hence his desire to begin with only healthy animals is entirely proper.

Mr. Hart will build a silo this summer. He has but six cows, but will probably build a 12-foot silo and keep enough calves and heifers to feed off it. He is undecided as to the type of silo, and some time was spent in getting at relative costs of the cement and "common-sense" types.

Mr. Oberg, whose farm is located where sand and gravel are easily obtained, will complete two cement silos this summer. Mr. Oberg will undoubtedly cooperate in keeping

15 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

account of his dairy operations.

As previously mentioned, many dairymen are feeding nothing but alfalfa hay, winter and summer. Several of these who have fewer than eight or ten cows are interested in silos. They also desire to increase their herds, but are financially unable to do so at present. Even the cost of a silo will be a hardship to some. In this regard the following suggestion has been discussed with a few: To grow stock roots (probably carrots), to supplement alfalfa hay in winter, and to sow mixed pastures, which may be supplemented with alfalfa hay in summer. The money which would be used for a silo can thus be invested in one or two cows, the silo, of course, to follow in a year or two, and the greater profits from the increased herd would help to build it.

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending April 24th a maximum temperature of 93 was recorded, minimum 45, and greatest daily range 44.

Cotton ginning of Valley grown rogued Durango and 1914 experiments was completed this week.

Three extra laborers were employed for hoeing ditches, orchards, fence lines, etc.

The latest plots of alfalfa in "Time of Cutting Experiment" of first crop were harvested this week, also alfalfa on B-6 to 8 was harvested.

The unworthy plants of Seedling Pomegranates growing on C-18 were grubbed from the orchard this week.

The following experimental plantings were made: Melons on A-13-2; Sudan Grass on E-3 and 4, and cotton for thinning and row space test on C-27.

Mr. T. D. Urbahns of the Bureau of Entomology visited the station Wednesday. Some cooperative investigations have been arranged with him of Chalcis fly infestation of alfalfa seed. A 25% infestation of the insect is found on local early pods formed.

During the week ending May 1st temperatures existed as follows: Maximum 84, minimum 41, and greatest daily range 33.

With only a minimum of 33 a white frost occurred on the night of May 1st and May 2nd which brought injury to beans, early melons and early cotton. Frosted areas are here and there very spottedly over the entire Project, but injured crops have only been checked and not damaged severely enough to necessitate replanting.

Corn plantings on A-25 were thinned. Fig orchard C-8 to 17 was summer pruned. A part of the pomegranates on C-18 were sprayed with Bordeaux Mixture to attempt a control of the disease affecting fruit internally when ripening. Encouraging results were secured in control by Bordeaux Spray last season.

Nursery, garden, grape and berry plantings were cultivated. More Sudan grass plots were seeded on D-13.

The following table shows the yields from oat and rye varieties:

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued)

Variety	Rate Seeded Per Acre, Pounds	Yield per Acre Tons, Air Dry Hay
Winter Rye	60	1.307
" "	90	1.007
Arbuzzes Rye	90	2.13
" "	60	5.00
" "	40	2.66
Appler's Rustproof Oats	76	2.643
" " "	45	1.777
Texas Red Oats	45	1.933

This variety of Arbuzzes Rye made an exceptionally heavy hay yield on medium light soil. The optimum seeding rate seems to lie between 90 and 40 pounds per acre.

During the week ending May 8th night temperatures still remained very cool and growing weather poor. The maximum temperature was 84, minimum 33, and greatest daily range 35.

Late alfalfa seed crop tests of 1914 were threshed and Durango cotton plant selections were ginned for planting.

Grape and berry plantings were staked and marked. Several ornamental trees were transplanted from the plant house to A-13-3.

Sudan grass in legume mixture with cow-peas and Soy beans was planted on E-5 and 6; New Era cowpeas and Arlington Soy beans were used in the mixture.

Weeds and Bermuda grass are growing rapidly - necessitating much hoeing in all crops, on borders and ditches.

Messrs. Blair, Peterson, Ratliffe and Reed made a thorough observation trip over the lower Yuma Valley portion of the Project two days during the week and also visited the Imperial Valley system intake on the Colorado River in Mexico.

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued)

Alfalfa on the project is making exceptionally good growth. The first crop being stood for seed is generally poor in seed. Barley and wheat will yield well. There is a noticeable increase in the acreage of wheat this season. The earliest grains are being harvested. Cotton stands are very poor on the heaviest soils. Beans are doing very well.

Yields from the 1st crop of "Time of Cutting" alfalfa experiment on Series D produced yields as follows:

FIELD CURED HAY PER ACRE

Date Cut	Pounds	Tons	Average Tons
4/5/15	1615	.808	
4/5	1864	.932	.870
4/10	3261	1.631	
4/10	2436	1.218	1.425
4/19	2210	1.105	
4/19	1893	.997	1.051
4/24	2786	1.393	
4/24	2505	1.253	1.323

Construction of a pasture fence about B-33 to 45 was begun.

Mr. Argyle McLachlan visited the station two days of the week.

Truckee-Carson.

During the week ending May 8, the maximum temperature was 74, and minimum 29.

The roads on the farm and the county road along the west side of the farm were smoothed up.

Plats H-23 to 28 inclusive were seeded to alfalfa.

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Plats H-3 and 3-1/2 were seeded to a mixture of the following grasses;- Red clover, alsike clover, red top, western rye grass, brome grass and orchard grass.

The following grasses and clovers were seeded on H-2 in individual plats:- Alsike clover, burr clover, red clover, red top, timothy, Australian rye, western rye, orchard grass, Bromus inermis and tall meadow oat grass.

The green-house roof was painted with white lead and oil to prevent the entrance of too much sunlight.

The manuring of the east end of B-5 was begun.

The work was begun of constructing a hog fence around 1/4 acre in H-17. A pig pasturing experiment will be started as soon as suitable pigs can be purchased. It is planned to pasture 10 pigs on the pasture giving them a 2% barley ration.

San Antonio.

The maximum temperature for the week ending May 8th was 88, minimum, 55, and greatest daily range, 28. The weather was threatening during the greater part of the week, rain being recorded on five days, however, the total precipitation was only .45 inch.

In order to clean out the weeds left from cultivation last week, all corn, cotton, milo, and other intertilled crops were cultivated. Field C5 and D3 were weeded as well as several of the orchards. Oats for hay on the rotation plats were cut. They were lodged so badly that a very poor job of cutting resulted.

Mr. C. H. Clark spent the 7th at the station taking notes on his flax plantings. He was very favorably impressed with the showing made this year and there seems to be good prpspects of flax being a profitable winter crop for this section.

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche

During the week ending May 15, the maximum temperature was 82, and minimum temperature 38.

All the planting has been completed in the irrigated rotations, fall irrigation experiment and the dry land rotations except the sorghum. The seeding of the grain varieties was finished in O and potatoes and alfalfa varieties in P. Sixty day oats planted in field D, time of breaking experiment.

The following pasture grasses and mixtures were planted in field Q with oats as a nurse crop.

South half of field seeded to the following mixture: Bromus inermis A.D.I. No. 26, 20 pounds; Western Wheat grass, 12 pounds and alfalfa, 3 pounds. Plat 1, 1/4 acre, Mixture A; Plat 2, 1/4 acre, Mixture B, and Plat 3, 1/4 acre, Mixture C.

Other mixtures and separate species were seeded in plats of one drill width on the west side of field from south to north as follows:

Plat 1, Mixture 1, two parts Brome grass to one part redtop.
Plat 2, Mixture 2, equal parts, Kentucky bluegrass, Italian rye grass and orchard grass.
Plat 3, Mixture 3, equal parts tall fescue, Western wheat grass and perennial rye grass.
Plat 4, Mixture 4, equal parts Kentucky bluegrass, white clover, and alsike clover.
Plat 5, Mixture 5, two parts slender wheat grass, two parts Brome grass, two parts Canada bluegrass to one part alfalfa.
Plat 6, Brome grass.
Plat 7, Slender wheat grass.
Plat 8, Western wheat grass.
Plat 9, Orchard grass.
Plat 10, Meadow fescue.
Plat 11, Tall fescue.
Plat 12, Timothy.
Plat 13, Redtop.
Plat 14, Italian rye grass.
Plat 15, Kentucky bluegrass.
Plat 16, Alsike clover.
Plat 17, White clover.
Plat 18, Agropyron desertorum.

The ground is drying up rapidly and the irrigation of alfalfa will have to be commenced soon.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff.

The weather continued dry during the week of May 15. We hope to get all of our ditches in shape so as to begin running water this coming week, although at present nothing is suffering for lack of water. We hope to begin the irrigating of alfalfa so as to get it off our hands before it is necessary to irrigate the grain crops.

During the week we completed the backsetting of the alfalfa and the land put in shape for potatoes. The potatoes on field K and also the sugar beets were all planted. The potato varieties as well as the potatoes for the irrigation experiment were planted. This soil is in fair condition for this crop.

On the time of planting corn experiment we reported that the early planted corn was completely frozen down between May 3rd and 6th. By May 10th the corn that was frozen had fully recovered and is now making a growth as rapidly as that corn which was planted April 20th, but was not affected at the time of the frost.

The early planting of the sugar beets were frozen down considerable and it was found necessary to replant these. There was less than a half of stand of these beets.

Under date of May 11, Mr. Holden reports as follows on the alfalfa pasture experiments:

I am herewith sending you the results of the hogs on alfalfa pasture for the first 15-day period. The hogs are doing fine, as will be seen from the results.

Due to the extremely cold weather the last ten days the alfalfa has made little or no growth. This made it necessary to remove the hogs from the old pasture onto new pasture; they were changed the day before being weighed so they would not be gaunt. The hogs are being kept separate, and will be weighed again when returned. The hogs on Rotation 65 were not taken off, as their plat is furnishing more feed than the older alfalfa, but even their pasture is rather short. The last couple of days have been much warmer, and the alfalfa is beginning to grow. If the warmer weather continues we will be able to return the hogs in a few days.

22 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

A summary of the results of the hogs on alfalfa pasture with different grain rations for 15 days - April 26 to May 10.

	Weight, Pounds		Gains, Pounds	
	Initial	Final	Total per Plat	Per Day Per Acre
Lot 1 - No Grain....	324	362	38	10.13
Lot 2 - 1% Corn.....	433	505	72	19.2
Lot 5 - 2% Corn.....	541	643	102	27.2
Rot. 65 - 2% Corn...	540	634	94	25.06
Lot 4 - 2% Barley...	542	648	106	28.26
Lot 3 - 3% Corn.....	648	788	140	37.33

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

North Platte.

Mr. Jones reports as follows on his activities during the month of April:

During April a large percentage of the spring pigs were farrowed, and as a whole the farmers have been fairly successful in saving the pigs. The percentage saved depend largely upon the quarters in which the pigs were kept. During the month a visit was made to a farm where a 25-pen farrowing house had been built at a cost of approximately $300. At the time of the visit there were 24 sows in the house, which had raised a total of 216 pigs to an average age of 2-1/2 weeks. This same farmer last year, with no satisfactory farrowing quarters, lost very heavily, and he estimates that this year, with 60 sows to farrow, he will save enough pigs over the record of last year to pay for the hog house.

Considerable trouble has been reported with young sows in farrowing, causing considerable loss among the pigs and sows. It is believed that this trouble is caused by improper feeding, as since the alfalfa has become available no more trouble has been reported.

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

At the present time only a very few hogs are being fattened for the market, most of the farmers preferring to wait and fatten on alfalfa pasture.

By the last of the month the alfalfa pasture was furnishing plenty of good grazing, being about 10 inches high May 1, and most of the hogs were out.

Arrangements were made with nine farmers for conducting hog feeding demonstrations, in which alfalfa will be the chief ration for the summer months. In addition, grain will be fed in different amounts, ranging from 2 per cent to less than 1 per cent. Later it is probable that some demonstrations will be carried on where the hogs will have access to grain in a self-feeder in addition to alfalfa pasture. During the fall months an effort will be made to conduct some demonstrations with sugar beets as a part of the ration.

During the first part of the month no hogs were shipped from this section, on account of the Denver market being under quarantine. The quarantine was raised on the 19th, and during the remainder of the month 16 cars of hogs were shipped out. The average price per 100 pounds at Denver during the month was $7.15. Total receipts for hogs during the month, $20,592.00. Farmers are expecting a higher price for hogs later in the summer.

One additional pig club, consisting of 9 members, was organized, being the second largest yet organized on the project. The largest is at Morrill, where 12 members are enrolled.

Material for a circular on the prevention and destruction of worms in hogs was put in shape for printing and issue during May. The article was published in the valley newspapers during the latter part of April.

Canker sore mouth in pigs is causing some loss, but not so much as during the spring of 1914.

Two outbreaks of cholera occurred during the month, one in a herd of 104 and another in a herd of 10 hogs. Both cases were reported fairly promptly and were vaccinated as soon as possible, so that very good results were obtained. The farmers are noticeably much more prompt in reporting sickness among their hogs this year than they were last year.

Accompanying Mr. Jones' report is a summary of his vaccination work from January 1 to May 1, 1915, with the results obtained.

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

During the week ending May 8th two outbreaks of cholera were found. The source of infection in one case was thought to have been by allowing hogs from a well herd to come in contact with the hogs in a herd affected with cholera. The source of infection in the second outbreak was probably harbored infection as cholera occurred on this same farm about a year ago. Both cases were very promptly reported. In one herd two shoats showed visible signs of sickness when the trouble was reported. In the other case one shoat had died and three others were sick when the trouble was reported. Both herds were vaccinated within 24 hours after being reported sick.

A number of calls have been received to visit herds affected with some trouble resembling cholera at first sight. High temperatures are found and the hog goes off feed and becomes very gaunt. As all the herds became sick after heavy rains, when they were exposed more or less and had very damp quarters, it is thought that the trouble is due to over-exposure. In every case all herds have recovered in 4 or 5 days. Old hogs and suckling pigs are affected.

Recently while performing a post mortem examination on a hog that had been dead 18 hours, Mr. Jones suffered a slight cut on his finger. The injured finger was placed in disinfectant and the examination continued. After the examination the finger was again disinfected. In about 36 hours blood poisoning developed and before it could be checked the entire had was affected. This emphasizes the importance of using the utmost precaution in the work.

Mr. Jones is now keeping on hand a supply of santonin and calomel to be furnished to the farmers as needed. Pure santonin now costs $4.25 and ounce, wholesale, and because of this druggists do not like to keep large amounts in stock.

Boise.

For the week ending May 8, Mr. Ireland reported as follows:

While perhaps not strictly within the scope of the work, so many complaints regarding damage by grasshoppers were received that it was decided to hold a meeting for the purpose of discussing

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

means of control. A meeting was accordingly called for Friday night. Twenty-nine men attended and the necessity for immediate and concerted action was emphasized. A number of those present expressed a determination to combat the pest and orders for poison were given at the meeting. The poison used for the present will be Paris green, with bran. If it is possible to obtain Sodium arsenite, this poison will be used in the form of a spray.

The hog cholera situation at the present time is serious. During the week three cases were found--two at Roswell and one near Greenleaf. One of the cases at Roswell, which is not under this Project, had run for two weeks before it was finally reported. Both of the affected herds at Rosewell were vaccinated by a Boise firm which manufactures serum. The number of hogs lost was not learned. The case in the Fargo District occurred on the farm referred to in the report of the week ending April 10th. This farm is just across the road from that of H. H. Cross, who has had cholera on his farm within the past two months. The owner of the herd where infection has just been found are reported by the neighbors to have been quite careless in the matter of sanitation and allowing their dogs to visit the farm of Mr. Cross and it is not surprising that their hogs have become diseased. They have not believed the disease to be cholera and are reported to have said that they did not fear it. They have not vaccinated, but are treating their stuff with copperas and similar remedies. A hog which had died before noon of the day on which the farm was visited was posted and abundant indications of cholera were found. The case was reported at once to the State Veterinary Department and the farm has been placed under quarantine. This case had also run for nearly two weeks before it was found, as the owners of the herd had promised to report any trouble as soon as it appeared. This lack of cooperation on the part of hog raisers is the one thing which makes cholera control especially difficult and is what we hope to overcome through the organization effected in those districts.

On Thursday a trip was made to various farms for the purpose of selecting a bull for one of the project farmers. The herds of Messrs. Hulbert and Leighton are among the best in the Northwest and would compare favorably with herds in eastern States. Both herds contain cows that have made official records of 30 pounds of butter in seven days and other records in proportion. Mr. Leighton is marketing his milk in bottles in Boise and preparing

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

to begin the production of certified milk in the near future, as he says bacterial counts of his milk show a lower percentage of bacteria than the requirements for certified milk. Mr. Hulbert is selling butterfat to the Nampa Cooperative Creamery and feeding hogs on an extensive saale on the skim milk.

Minidoka.

The Minidoka County Fair which will be held at Rupert Sept. 28 to 30 will be conducted along strictly Agricultural lines. It is planned to give especial attention to the boys and girls club work and to put in features of interest to all the schools.

The cold wave of the last part of last week and the first part of this did but little if any damage either to the fruit or crops.

The cut worms of which there has been many complaints have matured and quit working in the alfalfa. This pest is reported as being much worse on fields that were not irrigated late last fall. In some cases this spring the working was stopped by irrigation under favorable conditions. The pest was not as bad on the Project as elsewhere in the State.

The acreage of sugar beets on the Project is the largest in its history. For the first time the factory has been compelled to refuse contracts. At the present time the pulp is all contracted to the Portland Feeder Company. The farmers are becoming interested in the value of the pulp as a feed and wish to begin feeding it on their farms. Mr. Budge, manager of the factory agrees that it would be well to favor the farmers in the sale of the pulp and will try to make arrangements so that farmers with cattle or sheep can contract for a certain amount.

The acreage of field peas for hogging-off purposes is much increased this year. On the South Side where practically two-thirds of the hogs are raised the acreage is quite large. There will be an increase in the number of hogs raised this year.

Owing to the low price of butter fat (21¢) dairymen as a rule are somewhat discouraged. The low prices are causing the people to give more attention to their cattle than formerly.

As many men are hard to induce to keep records of their herds, a plan begun recently is to have a record kept of all cows for 7 days at a time. A test is made and the fat computed for a week.

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

Later in the season this will be repeated. It is believed that in this way many men who otherwise could not be induced to keep records will be made to see the value of the work.

Mr. Rinehart reports the above for the week ending May 8.

Huntley.

Mr. Christopher reports the following for the week ending May 15:

Sunday 500 cubic centimeters of hog cholera serum were received from Bozeman. This serum was used to vaccinate hogs belonging to Frogen Bros. near Shepherd. They did not have the cholera but the serum was used as a precaution. Monday I went to Ballantine to do cow testing work for B. C. Baylis and Frank Butler. Tuesday I did farm survey work near Ballantine, I also called on F. A. Banderob, near Osborn, and arranged to cooperate with him in keeping records on his cows. Wednesday was devoted to farm survey work in the vicinity of Pompeys Pillar I visited five farms on this day. Thursday I moved my office from the Reclamation office building to a room back of the Huntley Bank. Friday I started to do farm survey work but was compelled to return to the office on account of rain, in the afternoon I went to Billings. I spent the greater part of Saturday with Dr. C. A. Hatterscheid, Deputy State Veterinarian, who is doing tuberculin testing on the project. So far he has found two reactors which will have to be slaughtered.

Shoshone.

Mr. Magruder's activities during the week ending May 15 visits to seven farms for surveys, a conference with the boys' club, testing cows for three farmers, discussion of barn construction with two farmers, writing an article for a local paper discussing the library maintained in the office for the use of farmers, visitng 15 farms and holding 4 office consultations.

One man for whom a hog was dissected last week lost five more the first of the current week. As the case was not surely determined to be cholera, he has not vaccinated his hogs, but one of his neighbors feared the disease and serum has been ordered for him.

22 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

Alfalfa, which appeared to have died out, is coming on in places. The fields from which plants were sent to the Department at Washington, were visited, and in some places no signs of buds were found. Some roots of old alfalfa were found which had strong shoots coming out several inches below the crowns. It is the general opinion that the alfalfa has suffered from the dry winter and that it will come on time for the second cutting.

An effort is being made to get owners of well bred bulls to care for them well and to keep them until some of their heifers come into milk and can be tested, so that very valuable bulls can be used to the best advantage.

APPOINTMENTS.

Oath and Personal Statement.

In requesting appointments, superintendents should see that the appointee's name is given exactly as he or she ordinarily signs it. In a number of cases recently appointments have been secured under names as requested by the superintendents, and then when the oaths of office and personal statement sheets come in they are found to be signed with another name, with an initial added, or with spelling other than as in the appointment. In such cases the Appointment Clerk is under the necessity of issuing a new appointment to coincide with the appointee's name as indicated in the oath and statement. This, of course, causes more or less additional clerical work and confusion.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Umatilla.

During the week ending May 1, the maximum temperature was 83, minimum temperature 37, and precipitation .60 inch.

Sorghum (Feterita) and alfalfa were planted on the checks in D4. Owing to a number of light rains the seed came up with but one irrigation, and a good stand was secured.

Five varieties of grain sorghum, Dakota Amber, Dwarf Red Hull Kaffir, Dwarf Hegira, Feterita and Red Amber were planted in duplicate series in C2. As a check for each series an area of Pride of the North corn equal to that planted to each variety of sorghum was planted.

During the week ending May 8, the maximum temperature was 87, and minimum temperature 38.

The lysimeters consisting of four sections having 1/4000 acre cross section and six feet of depth were completed. The superstructure consisting of a cubical area about 3 feet in diameter, which is to be used for utensils employed in collecting water that percolates through the soil, surrounded by 8 inch walls. The walls of the soil containers are made of oil mixed concrete, a dark lubricating oil being used at the rate of 5% as much by weight as of cement in the mixture.

A variety test of corn including Leaming, Minnesota #13, Pride of the North, Reid's Yellow Dent, Sanford White Flint, Silver King, and Stowells Evergreen were planted in field C1.

Field A2 was plowed to turn under a cover crop of Vicia villosa preparatory to planting varieties of soy beans and grain sorghum.

During the week ending May 15, the maximum temperature was 74, minimum temperature 42, and precipitation 1.08 inches.

Field D2 was selected from which to take the soil to fill the lysimeters. It was chosen for the reasons that no grading has been done upon it, and in character the soil is somewhat coarser than that on the low land, and finer than the prevailing type on the hill. Layers six inches in thickness were taken up and replaced as carefully as possible in the tanks. Crops were planted; No. 1, alfalfa alone; No. 2, alfalfa with manure; No. 3, left without crop, and No. 4, soy beans (Ito San)

29 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Umatilla (continued)

A variety test of watermelons consisting of the four best varieties from previous determinations, Kleckly Sweet, Triumph, Tom Watson, and Red Seeded Russian were planted in the asparagus bed. Cantaloupe varieties were also planted in the hotbed. The varieties planted were Montreal Market, Early Green Nutmeg, Hackensack, Petosky and Emerald Gem. The asparagus bed was chosen owing to the fertile condition of the soil, and the shade that the asparagus plants will afford the melon plants. It is thought that shading might diminish the attack of muskmelon plants by blight diseases.

Soy beans of the following varieties were planted in A2: Auburn, Black Eyebrow, Ito San, Manchu, Medium Yellow, and Pingsu.

A test of grain sorghum comprising 12 rows each of six varieties was also planted in A2. The varieties are Dakota Amber, Dwarf Red Hull Kaffir, Dwarf Hegire, Feterita, Red Amber and Freed Sorgho. A duplicate of this amounting six rows of each variety less the last one was planted in B3.

A test of Sudan Grass in rows was planted in A4, and a small area broadcasted in B3.

As a satisfactory stand of clover was not secured on A4 it was reseeded.

Alfalfa was planted in the south half of B2. Considerable difficulty has been met with in getting a stand of alfalfa on this land, and extra care will be taken in this attempt to get it successfully seeded.

Yuma.

During the week ending May 15, the maximum temperature was 101, minimum temperature 46, and greatest daily range 48.

A break in the main canal from Laguna Dam cut off all water from the Yuma Project for nearly two weeks. Water was turned in the ditches again Saturday and 57 acres were irrigated on the Experiment farm.

The Colorado River has already risen considerably causing seepage water to appear in low lying lands.

Oats on C-19 and rye on A-24 were harvested for grain and threshed. In harvesting without a binder the rye became dry and shattered very badly. Threshed yields were as follows:

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued)

Variety	Rate of Seeding Pounds per Acre	Yield Per Acre	
		Grain Bushels	Cut for Hay Tons
Appler's Rust Proof Oats	76	42.5	2.6
" "	45	38	1.8
Texas Red Oats	45	34.5	1.9
Arbruzzes Rye	40	21.8	2.7
" "	60	16.2	5.0
" "	90	8.5	2.1
Winter Rye	90	Not mature	1.0
" "	60	" "	1.3

The second cutting of several plats of alfalfa was made. Much hoeing and cultivating was done.

Eucalyptus trees on the south and west lines were pruned.

Date, fig and deciduous orchards were furrowed and irrigated.

A variety planting of millets and sweet clover was made on A-15-1.

The stock pasture fence on B-33 to 45 was completed.

Mr. C. H. Clark visited the station on the 13th inst.

San Antonio.

The maximum temperature for the week ending May 15th was 91, minimum, 52, and greatest daily range, 34. The total precipitation was .02 inch.

Cultivation of those fields left unfinished last week was completed. These were corn on C5, milo on D3, cotton on AB8 and beans on B4. The farm roads were graded. Soil samples were taken on cotton plats.

Several plats of oats for grain in the rotation experiments were cut and three of the oats in the oat pasturing experiment were cut. A large portion of the oats cut for hay last week were hauled in.

29 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

All of the corn plats in the rotation experiment were weeded last Saturday.

Mr. Collin's corn plantings on C5 were thinned on the 10th. The milo in the thinning test on D3 was thinned on the 11th. Owing largely to grub worms a rather poor stand was obtained.

Truckee-Carson.

During the week ending May 15, the maximum temperature was 77, minimum temperature 33, and precipitation .07 inch.

Plats A5 and 6 were replowed, leveled and planted to the following varieties of potatoes:- American Wonder, Burbank #1, Burbank #2, Burbank (Dietz select seed), Burbank (Purchased from Kents), Earliest of all, Early Freeman, Gold Corn, Hundred-fold, Irish Cobbler, Great Divide, Livingston, New Snow, White Beauty (Fallon seed), White Beauty (Fernley seed), Early Ohio, Red Ohio, Colorado Pearl, Pride of Multnomah, Early White Prizetaker, Idaho Rural, Rural New Yorker, Rusty Coat, Seneca Beauty, Early Triumph, Early Rose, and New White Victor.

Plat H-1 was planted to Northwestern Dent field corn. One and a quarter acres of 90 Day Disco White Dent was planted on the farm of Frank Orr.

The apple and pear trees were sprayed with arsenate of lead.

A fence was built around 1/4 acre of good alfalfa land, and divided into two parts making 1/8 acre in each half. The alfalfa was mowed before putting in the pigs. Five Durocs and five Berkshires were purchased.

Number	Durocs Weight, Pounds	Berkshires Weight, Pounds
1	45	42
2	41	34
3	49	33
4	48	29
5	41	28
Average	44.8	33.3

29 May, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Plats D-3 and 5 were seeded to alfalfa and D-4 to sweet clover.

One man and team hauled manure throughout the week to plat B-5.

Plats H-1, 2, 3, 10, 23, 24, 25, 26, 27, 28, 29 and all of field Y were irrigated.

Belle Fourche.

During the week ending May 22, the maximum temperature was 65, minimum temperature 30, and precipitation .31 inch.

During the week the roads were marked and graded in fields B C D E and G. The land for corn ground in field O double disked and leveled and the variety corn planted in series II. There were frequent small showers that interfered with field work and the balance of the time the men were employed in laying walks and finishing up cistern by the barn. No irrigation has been done to date.

The hogs on alfalfa pasture in Field A were weighed on May 14. The gains shown in the following table appear rather high. This may be due to the fact that the hogs were rather gaunt when put on the pasture.

LOT 1

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A
			Initial	Final	Total	% Daily	Per Day Per Hog		
5/5-5/14	9	4	499.0	570.0	71.0	1.48	1.98	112.2	$ 3.85
LOT 2									
5/5-5/14	9	5	595.0	690.5	95.5	1.66	2.12	133.8	$ 5.35

In calculating the net returns per acre in the above table, corn is valued at $1.00 per hundred and pork at 7 cents per pound.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff.

Mr. Knorr reports the following for week ending May 22:

On the night between May 17th and 18th snow began falling and continued almost three days, making a total snow fall of more than one foot. The theremometer on one night fell as low as 23 degrees. All of the fruit is frozen, the alfalfa has been damaged considerable and some of the corn that was exposed after thawing began was frozen. Today, May 22nd, there is still a great deal of snow on the ground, and the actual damage done cannot be given at this time. The hogs and especially the young pigs on the young alfalfa suffered more than anything else. Indications are now that the snow will be gone in a day or two, and farm work may be again resumed.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Tieton.

Mr. Bean reports the following for week ending May 15:

Mr. Lampson, the Agriculturist of Benton County, called in regard to cooperation between this office and his in the work in the respective territories. Twelve farm surveys were made during the three days given that work.

Mr. Farrell spent two days in the valley in driving over a part of the project, reviewing the work accomplished and discussing plans for the season.

Arrangements were made with Mr. Smyth to secure data on his hog feeding operations this season. He will pasture fall shoats and spring pigs on alfalfa. It is planned to hog off a part of his corn crop, allowing half of the pigs to pasture alfalfa while they have access to the corn. The corn not hogged off will be "jerked" and fed to the other half of the herd which will also be on alfalfa pasture. These hogs will undoubtedly have no grain until the corn is ready to feed and an account will be kept of the gains so made and the price thus paid for alfalfa pasture. This data will be compared with that obtained in cooperation with Mr. Cox who is feeding grain throughout the season while pasturing alfalfa.

29 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte.

Mr. Jones reports the following for week ending May 15:

On April 23rd, W. J. Startzer shipped 224 Mexican lambs, averaging 82 pounds, from Scottsbluff where they were fattened, to the Chicago market. These lambs sold for $11.15 per cwt. This is 55¢ more than lambs brought at the Chicago market prior to this year and is 10¢ above the next highest price this season.

An order for a car of shoats has just been received from Dr. Gain, State University, at Lincoln for use in connection with the manufacture of anti-hog cholera serum and virus at the State Serum Plant. On account of abundance of alfalfa pasture at this time of year most of the farmers do not care to sell their shoats, so it is doubtful if the shoats can be secured. Last fall two car loads of shoats were shipped to the State Serum Plant from the project.

On Monday, May 10th, a call was received to visit Babbit's swine herd near Mitchell. A post mortem examination was held on a hog that had just died and positive hog cholera lesions were found. The balance of the herd, including 32 head, were vaccinated, with the exception of one shoat that showed marked signs of sickness. When preparing the herd for treatment they were changed from a large lot to a smaller lot where they could be caught easily. They were handled as carefully as possible. On taking the temperatures when vaccinating every hog in the herd had a high temperature, ranging from 104-1/2 to 107-1/2. This herd was visited again on the 15th and not one of the vaccinated hogs showed any signs of sickness. This would seem to indicate that the high fevers found on the day of vaccination, were due to exercise rather than to cholera.

On Saturday, May 15th, a visit was made to a herd of 26 hogs that were vaccinated on May 4th. There were 15 normal temperatures and 11 high temperatures in the herd at time of vaccination. At the time of the second visit none of the vaccinated hogs had died but 2 that had high temperatures at time of vaccination, showed marked signs of sickness.

Sine January 1, 1915, ten herds, or 326 hogs, have been vaccinated. All hogs vaccinated were in herds affected with cholera or in herds that had been exposed to cholera. Number lost, 26, or about 8.2%. By far the greatest loss occurred in a herd vaccinated in February that was in very bad shape when treated.

29 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte.(continued)

The total Pig Club enrollment up to the present time is 56. This includes 49 boys and 7 girls. It is expected that the enrollment will reach at least 60 before June 5th when the enrollment closes. The largest enrollement in any one club is 14. With the exception of a few scattering Pig Club members all members are enrolled in one of four local clubs. In awarding Pig Club prizes, arrangements will be made for awarding about five general county prizes for which all Pig Club members can compete. Local club prizes will also be given for which only members of local clubs can compete. It is thought that the latter will stimulate more local interest among the boys.

The total Boys' and Girls' Club enrollement for the county up to the present time, including pig clubs, corn clubs, potato clubs, canning and gardening clubs and sewing clubs is approximately 300.

Boise.

For the week ending May 15, Mr. Ireland reports as follows:

An unusual period of wet weather has prevented much field work, rain falling on every day except Saturday. These continued rains have gone far to relieve the threatened water shortage.

On Monday a lecture was given on horse breeding by Mr. F. N. Naylor, at his place. The lecture included demonstrations, microscopic tests, and a discussion of the causes of barrenness and other subjects not generally understood by farmer-breeders. Mr. Naylor is a member of the Graham Scientific Breeding School of Kansas City.

The hog cholera situation has not improved since last report. The meeting called for Wednesday night was not well attended, presumably on account of the weather, and another meeting was called for Saturday afternoon. Thirty-five farmers attended this meeting and keen interest was shown, probably on account of another outbreak of the disease in a herd of 1,000 head. A central organization was formed with a committee to arrange for a series of meetings to effect district organizations in all school districts tributary to Nampa, and a recommendation will be sent to Meridian that the movement be taken up there.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley.

During the week ending May 22, arranements were made with Mr. Anthony Oberbauer to cooperate with him in keeping records on his dairy herd. Arrangements were also made with Mr. Eugene Sampson to conduct hog feeding demonstrations during the summer. The hogs used will be spring farrowed pigs and will have access to a measured area of alfalfa pasture and will be fed a supplementary grain ration.

One case of swine sickness was reported which upon investigation did not prove to be anything serious.

Experiment work being carried on at the experiment farm was inspected in company with Mr. F. D. Farrell and Mr Dan Hansen.

On May 14 an article signed by Dr. H. Welch of the State College at Bozeman was published in the Huntley Journal. Dr. Welch in this article explains how and where hog cholera serum may be obtained and gives advice concerning its use.

Shoshone.

During the week ending May 22nd, visits were made to thirteen farms, milk samples were tested for two farmers, and ten farmers called at the office.

There were no new developments in the hog cholera situation during the week. So far as now known, there is no cholera on the Project. A supply of serum has been secured for prompt use in case of an outbreak.

The following table shows the prices received for butterfat by Mr. H. W. Lovercheck, a farmer at Garland, from September, 1912 to date. Up to October, 1914, the cream was shipped to Laurel, Montana; since November 1st, 1914, it has been sold to the Powell creamery.

Year	Month	Price	Year	Month	Price	Year	Month	Price
1912	Sept,	28.	1913	Aug.	24.5	1914	July	21.
"	Oct.	30.	"	Sept.	27.5	"	Aug.	22.
"	Nov.	30.	"	Oct.	30.	"	Sept.	25.
"	Dec.	37.	"	Nov.	32.	"	Oct.	28.
1913	Jan.	35.	"	Dec.	32.5	"	Nov.	30.
"	Feb.	35.	1914	Jan.	32.5	"	Dec.	28.
"	Mar.	33.	"	Feb.	27.	1915	Jan.	27.
"	Apr.	33.	"	Mar.	24.5	"	Feb.	26.
"	May	29.	"	Apr.	21.	"	Mar.	25
"	June	26.	"	May	20.	"	Apr.	25.
"	July	24.5	"	June	21.5	"	May	25.

29 May, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

As shown in the table, the prices paid during the three spring months this year are higher than during the corresponding months in 1914, but lower than during the spring months of 1913.

At least nine new silos will be erected on the project this summer. These will be stave silos. The material is expected to arrive in a few days. Most of these silos will be filled with corn silage, but one of the farmers plans to silo oats and cowpeas. Some of the farmers will silo first crop alfalfa for use until the corn is ready next fall.

Boise

Almost the entire week of May 22 was devoted to hog cholera work. As a result of the meeting at Nampa on May 15, at which a committee was appointed to arrange for a series of meetings in rural school districts, seven meetings have been held. Friday afternoon, in connection with the closing exercises at District No. 60, an organization for cholera was taken up. Prof. Center, of the State University, and Mr. Rinehart, of the Minidoka Project, were present and spoke. As a result of these meetings, at which the present status of hog cholera has been discussed, much interest has been aroused and a number of reports of suspected cholera have come in. A number of these have been investigated, but no pronounced cholera cases have been found.

Meetings have been scheduled for each night of next week, by the end of which time the scutheastern part of Canyon county and the southwestern part of Ada county will be fairly well organized. Whether this means general cooperation among the farmers for the control of the disease or not remains to be seen.

5 June, 1915.

WESTERN IRRIGATION AGRICULTURE.

BOOKS,
at field stations.

The Bureau Library has issued a call for a list of books at all field stations purchased prior to July 1, 1915, and requests that such lists be supplied as soon after that date as possible.

These lists should be made up in the following order:

Author's name (surname first), title, date of publication, number of volumes (if more than one), and edition.

The list should be arranged in alphabetical order.

It is requested that field men be prepared to furnish these lists as soon as possible after July 1.

FIELD NOTES.

Umatilla.

During the week ending May 22, the maximum temperature was 75, minimum temperature 51, and greatest daily range 23. Precipitation for the week .23 inch.

Most of the time was consumed in attending to minor pieces of work of miscellaneous character. Irrigation was continued, covering much of the newly planted area in fields A4, B2 and D4. Sorghum varieties, Dakota Amber, Dwarf Hegira, Dwarf Blackhull and Feterita were replanted.

Mail is now being carried over the first rural route established on the Umatilla Project. Three trips are being made each week. The service began Monday, May 17.

Truckee-Carson.

During the week ending May 22, the maximum temperature was 80, minimum temperature 32, and precipitation .00.

Plats E6 and 7 were harrowed preparatory to seeding to sweet clover.

Fifty plants each of nine varieties of cabbage were set in A2.

Plat B5 was manured, plowed, harrowed and made ready for planting to watermelon, muskmelon and tomato varieties.

5 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

A fertilizer test with potatoes was planted in plat A2. The fertilizer included ammonium sulphate, acid phosphate, potassium sulphate, guano, bone meal, complete fertilizer and complete fertilizer with gypsum.

The following varieties of sorghums were planted in plats D6, 7 and 8: Feterita, Brown Dourha, Jerusalem Corn, Early Amber, Red Kafir, White Kafir, Dwarf Milo, Broom corn and one variety of forage crop not classed as sorghum, pencilaria.

Huntley.

During the week ending May 22, planting of the potato varieties and the potatoes in the rotations was completed.

Alfalfa was planted in fields MI and MIa (Worden Tract), on plats 7 to 19, inclusive, in both fields.

Soil samples for salt determinations were taken on the Worden Tract.

Oats were planted in twelve twentieth-acre plats in field BVII in the phosphate fertilizer experiment.

Sugar beets are being damaged to some extent by the sugar beet carrying beetle and the flea beetle, and in a few cases farmers are replanting.

Crops generally are in fair condition, although held back somewhat by cold, cloudy weather during the past two weeks.

Mr. Farrell visited the station from the 18th to the 20th, inclusive.

San Antonio.

The maximum temperature for the week ending May 22nd was 91, minimum 66, and greatest daily range 19.

Cowpeas were planted on May 17 between the wide-spaced corn rows in the corn and cowpea experiment on C3. The oat selections on field C4 were cut. The remainder of the oat plats in the rotation experiments were also cut. All corn, cotton, milo plats and the orchards were weeded during the week. Johnson grass hay on a number of the vacant fields was cut.

5 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

Soil samples were taken on the cotton plats regularly sampled.

Oats for hay on the rotation plats were hauled in. The yields are shown in the following table:

Plat No.	Yield		
	Pounds Per Plat	Pounds Per Acre	Tons Per Acre
A5-1	1075	4300	2.2
A5-4	1120	4480	2.2
A6-5	1176	4704	2.3
A6-8	1175	4700	2.4
A6-10	1157	4628	2.3
A6-12	1051	4204	2.1
B4-18	1062	4248	2.1
B5-7	1059	4236	2.1
Average		4472.5	2.2

Mr. C. L. Scott of Bureau of Etomology visited the station the latter part of the week.

Belle Fourche.

During the week ending May 29, the maximum temperature was 84, minimum temperature 41, and precipitation .096 inch.

The week has been cold, with almost continuously cloudy weather and frequent showers, so that very little field work could be done.

The men were employed in cleaning up around the buildings; a porch was started on the seed house, and the walks between the buildings completed.

Scottsbluff.

The weather during the week of May 29 was anything but favorable for farm work and plant growth. On Monday, May 24, rain fell and this continued until Thursday. During this time the rain had let up more or less, but no farm work could be done.

5 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

On Tuesday there was a very heavy rain, similar to the small cloudburst of two years ago; about 1.4 inches of rain fell in a very short time. This rainfall was preceded by a hail storm which did considerable damage. The greatest damage done was in an area east of the Farm. The damage done on the Farm by this hail and rain was much greater than the damage done by the snow storm; young alfalfa was beaten into the ground and covered up; beets were considerably damaged, and a great deal of washing in the fields took place. On areas that seem comparatively level gullies were washed out, and the corn and potato rows suffered most severely.

On account of the continuous cool weather the crops are not recovering as fast as they should. The old alfalfa was damaged considerably by the hail, but it is not necessary to cut it at this time. Several fields east of here were damaged so badly that cutting is not necessary, the hail having cut the alfalfa to the ground.

Progress in Hog Pasturing Experiments.

Mr. Holden has reported the results secured with 10 lots of hogs on alfalfa pasture during the 30-day period from April 26 to May 25. He reports that the weather conditions during most of this period were very unfavorably, low temperatures having materially retarded the growth of the alfalfa. The plats are divided and divisions are pastured alternately. The results secured with six lots of shoats fed varying quantities of corn (in the ear) and barley (ground) to supplement the alfalfa pasture are given in the following table:

	Lot 1 No Grain	Lot 2 1% Corn	Lot 4 2% Barley	Lot 5 2% Corn	Rot. 65 2% Corn	Lot 3 3% Corn
Number of Hogs.....	3	4	5	5	5	6
Number of Days.....	30	30	30	30	30	30
Total Initial Weight, lbs	324	433	542	541	540	648
Av. Initial Weight, lbs..	108	108.3	108.4	108.2	108	108
Total Final Weight, lbs..	375	548	693	690	674	866
Av. Final weight, lbs....	125	137	139	138	135	144
Total Gain,.lbs.....	51	115	151	149	132	218
Grain fed.....	None	2.9 bus.	368 lbs.	6.4 bus.	6.6 bus.	10.7 bus.
Value of Gains, from 1/4-acre, at $7.00 per cwt..	$3.57	$8.05	$10.57	$10.43	$ 9.14	$15.26
Hogs paid for grain		$1.23 bu.	$ 1.90 cwt.	$1.07 bu.	$ 0.85 bu.	$ 1.09 bu.

5 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

It will be noted from the above table that the gains made from 1/4 acre of alfalfa by the hogs which received no grain was worth $3.57, if the gains are valued at 7 cents a pound. If this amount ($3.57) is charged against the grain-fed hogs as the value of the 1/4 acre of alfalfa pasture for the 30-day period, these hogs paid from 85 cents to $1.23 a bushel for the corn and $1.90 a hundred for the barley consumed. These figures are, of course, only preliminary; they may change somewhat before the experiment is concluded later in the summer.

The results secured with four lots of sows and pigs on four quarter-acre plats of alfalfa are given in the following table:

	Lot 6	Lot 7	Lot 8	Lot 9
Number of sows	2	2	2	2
Number of pigs.....	17	15	15	12
Total Initial Weight of Sows..	702	873	468	504
Total Initial Weight of Pigs..	64	83	118	67
Total Final Weight of Sows....	681	826	449	508
Total Final Weight of Pigs....	232	281	297	178
Total Gain of Pigs.....	172	198	179	111
Amount of Grain Fed.....	Barley 390 lbs.	Corn 6.1 bus.	Corn 6.0 bus.	Corn 5.3 bus.

5 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Tieton.

During the week ending May 22, six farm surveys were made and a circular letter warning against hog cholera was written. The mailing list for the project was partially completed. Six office calls and a field call were cared for and assistance was given in spraying a herd of hogs for lice. A short trip was made into the Moxee district with Mr. Rockwood, U. S. Entomologist, to look at an alfalfa field where the plants are dying rapidly. One day was spent at Prosser, on the Sunnyside Project, at a meeting held in the interest of a proposed cooperative creamery.

Mr. Borton's herd of about 40 hogs and pigs were treated for lice. Two pounds of common soap was mixed with four gallons of hot water and poured into a barrel. Eight gallons of kerosene were stirred into the soap solution and the barrel nearly filled with water. A barrel pump, such as is used for spraying trees, was fitted to the barrel. The brood sows were sprayed in their individual pens, and the stock hogs were sprayed in a small enclosure. The floors, walls, fences and some of the ground was given a liberal spraying. The spring pigs were dipped into a tub full of the emulsion.

During the week ending May 29, seventeen farm surveys were made and three office conferences were held. Two herds of hogs were weighed for demonstration work and a system of feeding planned for one of them. Arrangements were made with Mr. Sheely, Assistant Health Officer, to do tuberculin testing for Tieton dairymen free of charge.

Mr. Borton is feeding seven shoats in a small lot. They are receiving a 4% barley ration and have green alfalfa always before them in a feed rack. The bunch will be weighed again in 15 days. Mr. Borton prefers to feed 4% barley rather than 2% because he wants to market the shoats as soon as possible.

Corn has not grown well this spring and has a decided yellow color due, probably, to the cold nights. The sage rats have done considerable damage to fields near raw land and many farmers are using poinson with fair results. Instances are being reported every day of corn failing to germinate dut to poor care of the seed last fall and winter. The job of replanting furnishes a very good argument in favor of testing seed before planting.

5 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

Mr. Rudd is milking ten cows and has a silo. He claims to have noticed that his cows did no better with alfalfa and silage than with alfalfa alone. He has weighed his milk for certain periods but says he has not time to test it. Tentative plans were made to do testing for him for a while and to keep complete records of his dairy operations.

Minidoka.

Cooperative field experiments are being carried on with the following farmers:

Peas for hogging off purposes:

H. C. Bateham	Rupert
C. E. B. Roberts	Rupert
J. A. Hardy	Rupert
E. R. Miles	Heyburn
- - Jensen	Rupert
J. L. Rush	Rupert

Sugar mangels compared with sugar beets or stock mangels for yield and feeding purposes:

C. E. Bouse	Rupert
D. H. Trieber	Rupert
S. W. Beck	Rupert
E. Marcey	Burley

Variety tests of corn for silage purposes:

C. E. B. Roberts	Rupert
S. W. Beck	Rupert
R. A. Ray	Rupert
J. L. Rush	Rupert

During the week ending May 15, the price of hogs was from $7.00 to $7.25 per cwt., depending on the finish. The farmers who were conservative and did not become discouraged because of the low price of hogs and the high price of grain are now receiving returns. The Burley hog buyers state they will have from twenty to twenty-five cars of hogs to ship out next week.

5 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

Alfalfa hay of which there is much left in the stack is being sold for $7.00 per ton baled and loaded on to the cars. An average of two cars a day are being shipped from Heyburn. Sections of the project where range sheep and cattle wintered have no hay for sale. Most of the hay is being shipped from Heyburn.

The weather for the past week has been wet, rain having fallen every day except Saturday. Wednesday afternoon there was a heavy hail storm in sections of the Project that is reported to have damaged the alfalfa to some extent.

During the first part of the week ending May 22, there were numerous showers many of them of long duration and quite heavy. These were of great value to both the irrigated and dry farmers. A grain crop is now practically assured for both, while up to this time the prospect was very discouraging.

The rains were of great benefit to the range surrounding the project. The condition of the range is of vital importance to many farmers of the Project. Most of the sheep on the range in this section are owned by Project stockmen and are wintered on the Project thus affording the best market for alfalfa hay in the out lying districts. Stock cattle, heifers and steers owned by the Project farmers are combined in herds and sent to the range at a small price per head (75¢ to $1.50) for the summer.

Sheep growing by the small farmer is fast becoming an important industry on the North side. Here there are 11,000 breeding animals owned by the small farmers. One of the greatest needs at the present time is an organization of the farmers owning these by which the farm flocks can be sent to the range for the summer under the care of a herdsman.

Three calls were received for investigating suspected cases of hog cholera. Only one was suspicious but the symptoms were not pronounced enough to warrant killing the animal for a post mortem.

On Wednesday an urgent call was received from Mr. Ireland on the Boise Project who desired assistance and advice in regard to organization for the control of the hog cholera situation in his territory. Friday and Saturday were spent on the Boise Project attending meetings and looking over the field. The situation is a serious one there and the best plan of going at the work for definite results cannot be announced at this time

5 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

except that it will be carried on as far as possible similar to that in the Twin Falls District and on the Minidoka Project. The greatest difficulty there is anticipated with the man who has neither capital nor credit to secure the serum for vaccination. Past experience has shown that now and then a man is found who does not believe in vaccination and who will let his hogs die rather than go to the expense of vaccinating them. From the spirit shown at the meetings, however, it is believed that the cooperation of the swine growers will be excellent.

The following publications have been ordered sent to each of the field men of the Office of Demontrations on Reclamation Projects:

The 1914 Yearbook of the Department of Agriculture.
Wisconsin Bulletin No. 245, "The Disposal of Creamery Sewage."
Kentucky Bulletin No. 186, "Experiments with the Sharpless Mechanical Milker."
Nebraska Bulletin No. 149, "Raising the Dairy Calf."

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Truckee-Carson.

During the week ending May 29, the maximum temperature was 81, minimum temperature 34, and precipitation .01 inch.

The following corn varieties were planted on the farm of Tom Connor, May 28 and 29. Each variety was planted in duplicate, with 3 rows in the first series and 2 rows in the second series:- Hickory King; Brazilian Stooling Flour Corn; Triumph Flint; Rustler White Dent; Smoky Dent; Gold Medal; Wimple Yellow Dent; Martins White Dent; U. S. Selection #160; Bloody Butcher-X-Selection #160; Australian White Flint; U. S. Selection #133; Iowa Gold Mine; Iowa Silver Mine; Northwestern Dent; Disco 90 Day White Dent; Disco 85 Day White Dent; Disco Pride; Minnesota #13; Riverview Special, and Minnesota #23.

Tomato, cabbage, eggplant and pepper plant varieties were transplanted from the green house to the garden. Varieties of beans, muskmelons, watermelons, squash, pumpkins and sweet corn were planted.

At the request of the project manager, D. W. Cole, Mr. Headley made a trip by auto to a proposed project in the Honey Lake Valley, for the purpose of passing an opinion on the agricultural possibilities of the territory for which water might be made available.

A big feeding experiment was begun May 16 with 5 Berkshire pigs, with an average weight of 33.2 pounds, and 5 Duroc pigs, with an average weight of 44.8 pounds. All pigs were placed in one-half of a quarter-acre pasture which had just been clipped with the mower so that all new growth of the alfalfa would be provided. They are weighed on Saturday of each week and changed to the other half of the pasture. In addition to the alfalfa pasture they are given a 2% ration of rolled barley, fed once a day at about 6:30 P.M. The ration is recalculated each week as soon as the new live weight of the pigs is determined.

The results during the first two weeks are shown in the accompanying table. The Berkshires made practically no gain during the first week but made satisfactory gains the second week. The Durocs on the other hand made the greatest gain during the first week. The fluctuation in growth may have been caused partly by the castration of 3 Berkshires and 3 Duroc boars at the beginning of the experiment.

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

First Period - 6 Days - May 16 to May 22, 1915.

	Durocs	Berkshires	Durocs Berkshires
Number of pigs	5	5	10
Initial weight, pounds	224	166	390
Final weight, pounds	236	168	404
Total gain, pounds	12	2	14
Daily gain, pounds	2.0	.33	2.33
Daily gain per acre, pounds	16.0	2.67	9.33
% daily gain	.87	.20	.59
Barley fed, pounds	27	20	47
Cost of barley @ 1-1/2¢	.41	.30	.71
Value of gain @ 7¢ a pound	.84	.14	.98
Daily net return per acre	$ .57	$ .21	$ .18

Second Period - 7 Days - May 22 to 29, 1915.

Number of pigs	5	5	10
Initial weight, pounds	236	168	404
Final weight, pounds	244	182.5	426.5
Total gain, pounds	8	14.5	22.5
Daily gain, pounds	1.14	2.07	3.21
Daily gain per acre, pounds	9.14	16.57	14.29
% daily gain	.48	1.19	.78
Barley fed, pounds	33	24	57
Cost of barley @ 1-1/2¢	.50	.36	.86
Value of gain @ 7¢ a pound	.56	1.02	1.58
Daily net return per acre	$ .07	$ .75	$ .41

First and Second Periods - 13 Days - May 16 to 29,

Number of pigs	5	5	10
Initial weight, pounds	224	166	390
Final weight, pounds	244	182.5	426.5
Total gain, pounds	20	16.5	36.5
Daily gain, pounds	1.54	1.27	2.81
Daily gain per acre, pounds	12.30	10.15	11.22
% Daily gain	.66	.73	.69
Barley fed, pounds	60	44	104
Cost of barley @ 1-1/2¢	.90	.66	1.56
Value of gain @ 7¢ a pound	1.40	1.16	2.56
Daily net return per acre	$ .31	$ .31	$ .31

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

During the spring of 1915 the following trees were distributed to 42 ranchers and four schools.

114 Russian oleaster	916 native tamarix (mostly cuttings)
6 Tamarix africana	5 Tamarix gallica
10 Tamarix indica	116 black locusts
66 Chinese poplars	38 Carolina poplars
64 box elders	267 Norway poplars
12 Volga poplars	36 golden willows
57 Chinese willows	55 apple seedlings
2 weeping willows	4 plums
6 globular headed willows	17 Karagash elms
22 white elms	30 Russian mulberries
8 pines	6 Chinese peach
50 Norway poplar cuttings	7 honey locusts
4 purple leaved barberry	1 climbing rose
2 silver leaved poplars	

Total plants and cuttings distributed, 1921.

Umatilla.

During the week ending May 29, the maximum temperature was 80, minimum temperature 44, and precipitation .2 inch.

The first crop of alfalfa was harvested in fields A1, B1, and C2. On account of protracted cool weather and an unusual abundance of rain the crop is very light.

The vetch; cover crop of Vicia villosa grown during the winter and early spring in field C1b was plowed in.

San Antonio.

The maximum temperature for the week ending May 29 was 93, minimum temperature 63 and greatest daily range 27. The total precipitation was 1.74 inches.

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

The oat selections on field C4 were threshed. There was a wide variation in the yield of the various selections, the yields per acre ranging from 15 bushels to 30 bushels. A few of the selections made slightly higher yields than the check plats planted from bulk seed of the same variety from which the selections were made.

All of the corn and milo was cultivated, the one-horse cultivator being used in the corn, as it was too large for using the double row cultivator.

Canada field peas on A3 were threshed on the 29th. Owing to a rather poor stand the yield was light. The yield was at the rate of 6.5 bushels per acre.

The hay was harvested from 3 plats on C6, which is a Johnson grass meadow where there is a test of the effect of cultivation on the yield of hay. Plat 4 was not treated, plat 5 was plowed in the fall and plat 6 was disked in the fall. The following yields were obtained:

Plat No.	Pounds per Acre.
4	1674
5	2043
6	2421

Scottsbluff.

During the week ending June 5 part of the time was spent in hauling manure out of the corrals, cleaning up hog yards, hog house and around the buildings. The potatoes were cultivated on field "K" and on the general planting. All of the corn was harrowed. The rains interfered considerably with the farm work.

All of the small grain is making excellent growth, but alfalfa and corn are practically at a standstill. A number of farmers have cut their alfalfa, hoping that it would make a new growth and give them a good first crop. Because of bad weather, it has been impossible for them even to rake that which was cut, and on account of the cool weather practically no growth is being made. We believe that it is more of an injury to the alfalfa to cut it at this time than to leave it as it is.

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

The sugar beets on the project are making but little headway. In fact, we have found fields where the farmers are thinning and others are still planting the beets. We have never known the planting season of beets to be strung out as it has been this year.

Dairy Report for May.

The cows were put on pasture May 1st. On May 17th a snow storm began covering the ground with snow, and it was impossible to leave the cows on the pasture at that time. They were put in the dry lot, and returned to pasture on May 24th. In spite of the bad weather the cows did very well. In April, it was found that the price of concentartes, which consisted of ground grain, was too high, making the profits per cow too low. During May the concentrates were cut down considerably, and this did not affect the production of milk or butter to a very large extent.

This month the report from the cows is much better than it has been in any previous month. It will be noticed that under the item of "pasture" we have charged $1.50 per month for each cow for pasture. This is an arbitrary figure, and may be changed at any time, but it is thought it would be possible to carry them through at this amount, for the reason that farmers charge from $1.00 to $1.50 per month for pasture in this section.

The price of butter fat varied considerably during the month, but made ab average of 23 cents per pound. It will also be noted that the butter fat of some of these cows increased. This is especially true of Rose and Mabel. Duplicate tests are made of all the milk. In these two cases a third test was made with but little variation in the tests, so that we feel that it is accurate.

The following is a report for the month of May:

	Butter fat					Concentrates fed		Hay		Profit or
Pounds Milk	Av. Test	Total	Market Price	Value of	Cost per lb.	Lbs.	Value	Lbs	Value	Loss
Wonder 755.0	4.3	32.46	23¢	$7.46	8.9¢	41.25	$0.61	325	$0.81	+4.54
Rose 678.4	4.2	28.49	23¢	6.55	10.2	41.25	0.61	325	0.81	+3.63
Marie 816.8	2.6	21.23	23¢	4.88	14.4	51.00	0.76	325	0.81	+1.81

12 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

Pounds Milk	Butter fat: Av. Test	Butter fat: Total	Butter fat: Market Price	Butter fat: Value of	Butter fat: Cost per lb.	Concentrates fed: Lbs.	Concentrates fed: Value	Hay [1]: Lbs	Hay [1]: Value	Profit or Loss
Mabel 1061.4	3.3	35.02	23¢	$8.07	9.3¢	64.00	$0.96	325	$0.81	+4.80
Beauty 847.3	3.6	31.50	23¢	7.24	9.2	41.25	0.61	325	0.81	+4.82
Maud 860.1	3.2	27.52	23¢	6.32	11.1	51.00	0.76	325	0.81	+3.25

[1] Hay fed in addition to pasture.
NOTE: The charge of $1.50 for pasture, while not shown in the table, was deducted from the value of the butter fat in calculating the profit or loss.

Belle Fourche.

During the week ending June 5, the maximum temperature was 75, minimum temperature 41, and precipitation 1.01 inch.

Very little field work could be done during the week because of the frequent rains. The men were employed cleaning up the stock yards, and a porch was built on the seed house.

All crops are looking well except the corn, which made very little growth during the week.

Mr. W.W.Burr visited the station on Friday and Saturday.

The hogs on alfalfa pasture in Field A were weighed on June 3. The following tables show that gains made by the hogs and the net returns per acre for each period since May 5.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche (continued)

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A
			Initial	Final	Total	% Daily	Per Day Per Hog		
					LOT 1.				
5/5-5/14	9	4	499.0	570.0	71.0	1.48	1.97	89.9	$16.32
5/14-5/24	10	4	570.0	618.0	48.0	.81	1.20	114.0	8.88
5/24-6/3	10	4	*618.0	633.0	15.0	.24	.37	114.4	- 0.36
Totals	29				134.0				$24.84
* One hog taken out on May 31.									
					LOT 2.				
5/5-5/14	9	5	595.0	690.5	95.5	1.66	2.12	107.1	$22.44
5/14-5/24	10	5	690.5	737.5	47.0	.66	.94	138.1	7.64
5/24-6/3	10	4	569.0	583.0	14.0	.24	.35	113.8	- 0.60
Totals	29				156.5				$29.48

In the above table the net returns are calculated on the basis of corn at $1.00 per hundred and pork at 7 cents per pound.

It will be noticed that the hogs during the last period did not pay for the corn fed. This probably is due to the fact that the weather has been very cold the last few weeks and the alfalfa did not grow fast enough to keep the pasture in good shape. Two of the sows, one in each lot, were taken out on May 24 and May 31, respectively, as they showed indications of being pregnant. On June 3, another was taken out of Lot 2 as there still seemed to be too many hogs for the pasture. This leaves only three hogs in each lost at the present time.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

NEBRASKA BULLETIN ON "PORK PRODUCTION."

The Nebraska station has recently issued bulletin No. 147, entitled, "Pork Production." This bulletin contains a detailed report of the extensive pork production investigations at the North Platte sub-station during the years 1911-12-13-14. The information contained in the bulletin will doubtless be of value to all our field men whose work relates to the swine industry.

The chief points covered by the bulletin are the following: wintering brood sows, both old and young; cost of producing a 50-pound pig, from old sows and from young sows; the cost of fall farrowed pigs and spring farrowed pigs, both from old sows and from young sows; the cost of growing pigs on alfalfa pasture and grain; feeding hogs, including experiments with various feeds; and a summary of averages of all the experiments conducted during the past four years. This summary brings together the information obtained from 64 experiments involving 1,222 hogs, and shows the results obtained with corn, corn and shorts, corn and barley, corn and emmer, corn and wheat, and corn and tankage, together with a comparison of each of these rations with corn and alfalfa.

It is suggested that those of the field men who have not received this bulletin request it from the Director of the Nebraska Experiment Station, Lincoln, Nebraska.

F.D.F.

FIELD NOTES.

Boise.

Mr. Ireland reports the following for week ending May 29:

This week, like last week, was devoted largely to hog cholera investigations and control. On Monday a call came from the farm of the State Sanitarium at Nampa where a registered Berkshire sow had died suddenly the night before. Post mortem examination showed lesions of cholera and two other hogs showed some symptoms of the disease. The herd was vaccinated by the Boise firm that manufactures serum, and it is believed the disease will be checked. The farm is very near that on which a bad outbreak recently occurred and it is thought pigeons are responsible for the spread of the infection.

On the same day three other calls came in which were answered as soon as possible. Two of these cases proved to be only minor troubles but the third proved to be a very bad outbreak of cholera. This herd was vaccinated on Wednesday and Thursday, but the disease had already advanced to such an extent that a great many individuals were not treated. Temperatures were taken of everything and in a herd of 81 shoats; only 9 were found below 104° F. Later develop-

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

ments in this herd have not been learned. An unusual combination of circumstances made this an interesting and somewhat puzzling case and E. F. Rinehart who was in this part of the state at the time assisted with the treatment.

Early in the week another outbreak was found on Deer Flat, south of Nampa. This, like most of the cases found previously, had not been reported promptly and the disease was well scattered through the herd before any treatment was given. A Boise veterinarian vaccinated the herd, but there has been considerable loss since then, although this has been largely among a lot of young stuff that was not treated. Two other herds just across the road from the one in which cholera appeared were given serum as they had undoubtedly been exposed. This was done at the urgent request of the owners.

In another case it was found that one man had lost 25 head from some trouble that was probably cholera. This had not been reported at all and none of the man's neighbors seemed to know anything about it. The few hogs remaining in the herd appeared well. In all, 10 herds have been inspected for cholera this week and 4 cases not previously reported were found.

Meetings for the purpose of organizing to prevent or control cholera have continued all week. Monday night at Franklin which is just on the edge of the Project, 26 men were present. Interest was good and an organization was formed. Tuesday night only a small number attended the meeting in Roosevelt district near Meridan, but an organization was formed. Wednesday night the attendance was too small to attempt an organization. Thursday night 23 were present at the Bennett school house which is in the same district as the Scism school house where there were 20 present on Saturday night. Friday night at Midway 11 were present but the meeting was not successful on account of a Grange meeting in an adjoining room. Losses were very heavy in this district in 1913.

E. F. Rinehart of Minidoka, spent the first three days of the week on the Project and assisted at meetings Tuesday and Wednesday nights.

The following numerical summary indicates the nature of the most important work done during the month of May:

Number miles traveled	884
Number farm visits made	67
Number farms revisited	5

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

Number callers at office	24
Number requests for services	87
Number letters received	39
Number letters sent	35
Number circular letters sent	3
Number meetings attended	16
Number meetings addressed	14
Total attendance at meetings	410
Herds of hogs inspected for cholera	30
Number herds found infected	9
Number herds treated for cholera	4
Number hogs treated for cholera	212

Shoshone.

During the week ending May 29, four farms were visited, cows were tested for three men, and thirteen consultations were held with farmers.

Five farmers who own a registered bull, a Guernsey, in partnership, have advertised him for sale in "Hoards Dairyman." The reasons for selling him are that though he is registered and imported in dam, no records of production are included in his pedigree; that the owners wish to breed to Holstein bulls in order to advance community breeding, as Holsteins are the popular breed here, and that the owners live too far apart to cooperate to advantage in the use of the bull.

Two men who own well bred bulls are very much afraid of their contracting contagious abortion and are interested in means of controlling it. One of the main projects for demonstration work, is control of abortion.

Many of the cows are being pastured on alfalfa in spite of danger of bloat. Pasturing is done for short periods when the alfalfa is dry and the cows under the care of a herder. The main reason for pasturing is on account of the scarcity and high price of alfalfa hay which is selling in the stack at $10.00 per ton. The hay was sold off rather close in the winter, as so many homesteaders have entered and been buying hay, that it is quite scarce.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

Sixty homesteaders have filed since January 1st, and many are waiting for Lateral "A" district to open for entry. So many are expected to file that the Project manager has arranged for a drawing.

Several cows have bloated on sweet clover pasture this week.

A great many hogs are on alfalfa pasture now. Comparatively few men are arranging for alternate pasturing this year, though many speak of expecting to arrange for it next year. A few pigs are dying with the thumps on account of being too fat and getting too little exercise.

Men who bought silos are beginning to plan for the foundations. One man was assisted with his foundation, and three others were consulted, regarding methods.

Two men were shown plans for dairy barns. Under conditions here, arrangement for stacking hay outside of the barn in such a position that it can be easily carried from the stack into the barn manger, is generally suggested. Most of the hay is fed from the stack yard in the open.

Fat stock are shipped via the C.B.& Q.R.R., via Frannie and Casper to Denver. Freight rates from Powell to Denver are as follows:

Sheep 47¢ per cwt. with 22,000 pound minimum.
Hogs 48¢ " " " 17,000 pound minimum.
Cattle 36¢ " " " 22,000 pound minimum.

The shipping time between Powell and Denver is four days. All stock are fed at Casper for one day. The C.B. & Q. runs a regular stock train from Billings via Casper to Denver, every Wednesdat. Cars of stock from the project reaching Frannie early Wednesday, are attached to this train.

An article was given to the local papers about the Berkshire Breeders Association at Rupert, Idaho, with the hope of stimulating interest in a similar organization here.

Minidoka.

Mr. E. F. Rinehart reports the following for week ending May 29:

For the past two years the prices on hogs at Los Angeles and San Francisco have been higher than at any of the other Western markets. Because of the demand and the geographical conditions affecting the supply, these markets have been by far the best for Southern Idaho, the prices being from 10¢ to 50¢ a hundred better than elsewhere.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

The stockmen who ship to California have always been dissatisfied with the contracts made with the railroads. Two lines are used: the Oregon Short Line and the San Pedro, Los Angeles and Salt Lake. Through rates are not given but a local rate is charged to Ogden or Salt Lake from which points another local rate is charged to California. The S. P. L. A and S. L. has given notice that their local rate is to be advanced $24.00 a car. This new rate will make the rate to California $2.00 more than the rate to Chicago.

Many of the stockmen feel that this is an unjust discrimination. A conference was held in Boise on Monday and Tuesday of this week and the case was laid before the Public Commission. They will look into the merits of the case closely and appear before the Interstate Commerce Commission in Denver on June 14th.

Tuesday evening and Wednesday were devoted to work with Mr. Ireland in the hog cholera control work. The Boise Project is badly infected. Vaccination there has not always been successful so that many people are skeptical. It is questionable whether the whole territory should be looked after or not.

Because of the fight between the graduate and non-graduate veterinarians of the State, each of which has many sympathizers, cooperative work in a district can with only a part of the swine growers. Another difficulty will be that so many men will demand that the double treatment be given to their herds even though there is no infection in the district.

Several calls for cholera investigations were in Thursday morning. Dr. Henderson had been notified and was already in the field. Cholera was found at one farm, that of Clarence Randall, five miles south and two miles west of Burley. In a herd of 108 hogs eight were dead and five were so badly infected that they were killed. The remaining ninety-five were vaccinated. A number of high temperatures were found. The method of infection is unknown but is supposed to have come from Oakley.

Friday afternoon on the South Side there was a severe hailstorm that lasted for nearly an hour. The alfalfa was riddled so as to make the first crop almost worthless. The grain was beaten flat. Much fruit was beaten from the trees and many gardens were ruined. The extent of the damage to the sugar beets and field peas could not be learned at the time the investigation was made. Across the river on the North side there was a heavy rain but no hail.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley.

During the week ending May 29, a trip was made to Billings, Bozeman and Townsend. The creameries at Billings and Townsend were inspected and data concerning the amount of cream obtained by them from Huntley farmers was secured. This data will be included in a later report.

On the way to Townsend a stop was made at Bozeman and a short interview was had with Prof. Martain of the Bozeman College and tentative arrangement made for a live stock inspection trip over the state to be made some time later at Prof. Martain's convenience. A visit was also made to the farm of Harry Summers near Bozeman for the purpose of seeing some very fine shorthorn bulls which he has for sale.

During the week seven farmers were taken to the Huntley Experiment farm where the work being carried on there was explained to them.

Arrangements were made with Mr. Frank Sheff to conduct hog feeding demonstrations during the summer. Spring farrowed pigs will be used. A 5/8-acre plat of alfalfa will be clipped about June 5 and immediately afterwards will be irrigated and on June 20, ten or fifteen, ten weeks old pigs will be turned in. The pigs will receive a 2% ration of corn in addition to the alfalfa pasture. The amount of grain fed may be increased as the experiment progresses if the condition of the pigs seems to warrant it.

A much needed rain fell Saturday afternoon and night.

Field work during the week ending June 5, was greatly hampered by rain and heavy roads.

Nine farm visits were made and forty-five samples of milk and cream were tested.

North Platte.

Crop Production Demonstration Work for the Month of May.

The following notes are taken from the May report of Mr. Knorr, is conducting demonstration work in crop production on the North Platte project in addition to his investigational work at the Scottsbluff Experiment Farm.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

At the beginning of the month the farmers were very optimistic regarding crop prospects. Alfalfa was, perhaps, farther advanced than in any previous year at this time. The snow storm that occurred during the third week of May, and the cold rains and low temperatures which followed, retarded crop growth to a large extent. Considerable damage was done to new seedings of alfalfa, to sugar beets, and to corn. A large acreage of beets and corn will have to be replanted. The corn which was listed appears to have suffered more than the corn planted by ordinary methods. The indications are that there will be a large increase in the corn acreage this year.

A number of calls were received with regard to cutting alfalfa after the storm. Most of the alfalfa lodged to some extent and there will be some loss in the first cutting. It seems likely that the sooner the crop is taken off the ground the better, as there will be better prospects then for a fourth cutting.

The small grains on the project are looking extremely well, having had sufficient rain to keep them in good growing condition. The rainfall during the month of May was about 3-1/2 inches. So far there has been very little irrigation. No irrigation water was run in the canals during the last three weeks of May.

During the month 50 requests for services were received from farmers. These requests were distributed as follows: small fruit 5; shade trees 4; vegetables 3; potatoes 6; corn 5; small grain 8; insects 3; pastures 4; general farming 5; sugar beets 4; and alfalfa 3.

The following comments are taken from Mr. Jones' report for the week ending May 29:

During the week 15 requests for services were received and 17 farms were visited. Six farmers called at the office.

Two calls were received from the vicinity of Minatare. In one case some of the hogs were suffering from exposure during the storms of the previous week. In two cases post mortem examinations were made on two small pigs but no hog cholera lesions were found and the trouble was thought to be due to exposure. There were a few sick shoats in the herd but a post mortem examination was not held on any of them. This herd was revisited on Friday and, as more of the shoats appeared to be sick, a post mortem examination was held and positive hog cholera lesions were found. This, perhaps, indicates that small pigs cannot be depended upon to show positive lesions. As soon as it was learned that there was cholera in the herd serum was secured

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

North Platte (continued)

from Mitchell and the herd was treated the same day. The treatment was given to 125 hogs.

Thursday evening a complaint was received from a farmer near Minatare to the effect that a neighbor had cholera in his herd and was not properly disposing of the dead hogs. The farmer was visited and urged to dispose of all dead animals in accordance with the state law. When asked why he did not report the sickness and have his hogs treated the farmer said he did not think it would do any good. This was probably an excuse, since several herds in the immediate vicinity has been treated with excellent results.

From 5,000 to 15,000 cubic centimeters of serum will be kept on hand at Mitchell during the season so that it will be available for immediate use when needed. The supply of serum is now being kept in a cellar but when the weather gets warmer it will be kept in the refrigerator at a local butcher shop.

Truckee-Carson.

The following items are taken from Mr. Cline's monthly report for April:

It is estimated that at least 50 per cent. of the 1914 alfalfa crop is still on hand. A considerable quantity of the 1913 crop is also still unsold. There is practically no sale for alfalfa at this time. The alfalfa acreage is constantly increasing due to the fact that, in most cases, the soil is relatively unproductive until it has produced alfalfa for a few years. It is expected that the 1915 alfalfa yield will amount to about 60,000 tons. To dispose of this large tonnage will necessitate extensive development of the live stock industries.

The dairy industry is rapidly increasing in importance. Every possible effort is being exerted to have the herds established on a sound basis, with the best dairy breeding obtainable under the conditions and to have the herds headed by the very best bulls that can be secured. Particular emphasis is being placed on the desirability of buyers assuring themselves that the cattle they purchase are free from diseases, particularly tuberculosis and contagious abortion. During the last five or six months 129 dairy animals have been tuberculin tested and 24 have reacted.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued)

The receipts of the local creamery since October, 1913, show the rapid development of the dairy industry on the project. The following table shows the quantities of butter fat purchased, the average prices, and the total amount paid to farmers for butter fat by the local creamery each month since October, 1913:

Year	Month	Pounds, Fat	Price	Amount
1913	Oct.	7,021	35.60 ¢	$ 2500.10
1913	Nov.	7,129	32.95	2349.00
1913	Dec.	8,627	31.3	2701.00
1914	Jan.	10,204	30.01	3063.00
1914	Feb.	10,366	27.05	2815.00
1914	Mar.	13,793	22.8	3145.00
1914	Apr.	14,916	23.06	3440.00
1914	May	16,414	23.83	3912.00
1914	June	15,918	24.01	3823.00
1914	July	13,635	24.66	3363.00
1914	Aug.	13.032	27.85	3629.00
1914	Sept.	13,345	30.25	4038.00
1914	Oct.	14,712	30.34	4465.00
1914	Nov.	13,991	31.82	4453.00
1914	Dec.	15,220	29.30	4466.00
1915	Jan.	15,703	28.03	4403.00
1915	Feb.	14,887	28.4	4229.00
1915	Mar.	17,927	23.82	4271.00
1915	Apr.	17,905	23.05	4128.00

Because of the prevailing high price of grain many ranchers have resorted to the use of beet sugar molasses as a supplement to alfalfa for feeding hogs. The molasses has been purchased from the local sugar factory at $10.00 per ton. Good results have been secured except in instances where over-feeding has been practiced. It appears that the best results are obtained when the molasses is diluted with about one-third to one-half water and the alfalfa hay is soaked in the solution before feeding. Since green alfalfa has become available this spring a large number of hogs are pastured on it and many of them are fed a small amount of diluted molasses as a supplement.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued)

The thirty members of the pig and dairy club are showing increased interest. In most cases the dairy club members have made butter fat tests on all the animals in their parents' herds instead of only the three animals required by the club rules.

The Bureau of Exchange letter for the month of April listed items wanted, for sale, and exchange for thirteen people. As a result of the Bureau of Exchange letters for February and March $3100 worth of property changed hands. Sixty-one farmers were represented in these letters.

The number of calls from farmers is constantly increasing. During the month of April there was 136 calls for assistance. Thirty-one farmers visited the office during the month. Of the 136 calls, 59 were for information regarding the purchase of dairy stock. This gives some indication of the intense interest being taken by the farmers in the dairy industry.

During the month of April butter fat tests were made on 84 cows.

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WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Huntley.

Because of heavy rains during the week ending June 5, very little field work has been done. Previous to this time crops were drying out badly and sugar beets, especially, were in poor condition. Beets have been damaged in some cases by the sugar beet carrion beetle and the flea beetle, and a few farmers have had to replant.

Following are the weights of hogs in field K since they were placed on pasture on April 24. On May 25 one of the hogs was removed from the pasture as it was found that there was not sufficient pasture produced to carry the five hogs that were placed on the pasture at first.

Dates	No. of Days	Initial Weight	Final Weight	Gain for Period	Gain per Day	% Daily gain	Daily Return per A.	pork per A per D	Amount grain fed
							cents		
4/24-5/14	20	789	863	74	3.7	.48	40-1/2	14.8	315.6
5/15-5/24	10	863	884	21	2.1	.21	-10-1/4	8.4	172.6
5/25-6/4	10	704	740	36	3.6	.53	44-1/2	14.4	140.8

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DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Shoshone.

During the week ending June 5, eighteen farms were visited, five men called at the office, and milk was tested for three farmers.

One man was assisted in the construction of a concrete foundation for his stave silo. Another man, who has bought a stave silo, was taken to see the construction of this foundation, and another was instructed regarding silo foundation construction.

Ten farms were visited for surveys and data on hog and cattle feeding. Two men were consulted regarding pastures.

An article on contagious abortion was published in the local papers.

Butter produced by the local cooperative creamery since January 1 is as follows: 375 pounds daily in January; 300 pounds daily in February; 8600 pounds during the month of March, and 8600 pounds during the month of April.

The following table shows the shipment, in carloads, of livestock from the project from January 1 to April 30, 1915:

Stock	January	February	March	April	Total
Hogs.....	3	11	4	0	18
Cattle.....	2	2	0	0	4
Sheep.....	3	4	0	0	7
Horses.....	0	1	0	0	1

Tieton.

Mr. R. P. Bean reports the following for week ending June 5:

Messrs. Doane and Frevert, of the U. S. Dairy Division, were in the valley for a day and a half this week. One day was spent with Mr. Doane in looking over the cooperative dairy manufacturing prospects of the Cowichee Valley and adjacent territory. There are about 500 cows in that territory at present and every indication points toward an increase.

Haying had begun on three of the seven farms surveyed during the week, and the yield is evidently close to two tons per acre for the first cutting. The weather recently has been favorable for growing

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

crops and for ripening strawberries and cherries. One field of barley, a second year volunteer crop (seeded three years ago) was harvested the first of the week. Spring wheat and barley are generally knee high.

The warm weather is bringing up the question of how to keep milk and cream sweet. In many cases the irrigation lateral run near the buildings and the water is usually below 52 degrees F. Small boxes may be built in the water to hold the cans. The winters are not generally cold enough to furnish a dependable supply of ice. The dairymen whose buildings are not situated near a suitable supply of cool water have a difficult problem to solve. Some of them use their cisterns but a little carelessness in handling the cans often spoils the water for domestic use. A great deal of the butter being made even now till not retain a good flavor as long as butter should.

Minidoka.

Nine calls to visit farms where the pigs were not thrifty were received during the week ending June 5. Of these cases two were due to indigestion, two to lack of proper feeding, one to lice, one to worms, one to sore eyes caused by the dip being too strong, one from a lack of mineral matter in the ration and another due to the fact that the pigs were fed grain in a sandy lot, eating considerable sand with the grain.

One form of requests that is becoming frequent is for a day or a half day to be spent on a farm going over very detail of the farming system carefully with discussions as to the future method of operation. Two such calls were made this week.

The interest in securing more and better livestock is constantly becoming better. This week calls were received for information as to securing purebred beef Shorthorns, and inquiry concerning purebred Red Polls, assistance in buying a purebred Duroc Jersey boar and securing a herd of grade dairy heifers.

There is considerable interest among the best breeders to organize a community breeders association. In the case of the Durocs there are now so many purebred herds that the sale of the surplus is becoming a problem and work towards an association for the purpose of holding a consignment sale is being done.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

The hail storm of May 28th damaged the alfalfa to such an extent that it has been necessary to cut the first crop ten days early. The crop is of little value as the leaves and tops are missing. Much fruit was knocked from the trees and the gardens suffered severely. Where the sugar beets had been thinned some loss will result. The grain was beaten flat, yet only a small portion was far enough advanced to be badly injured. The hail was in a streak that cam across the west end of the South side Project, passing through Heyburn and Burley and then estending South. Approximately one-fifth of the Project was dmaged.

During the week ending June 12, Mr. Rinehart received four calls to visit sick pigs. One pig was sick with pneumonia and died; another had blind staggers and was killed; another had ricketts and the fourth was a brood sow nursing six pigs. The latter sickness was caused by a lack of mineral matter in the food. The last two mentioned animals recovered.

Three farms were visited, together with their owners, and details and outlines of future farming systems were discussed.

The Clover Leaf Ranch which is the largest on the Project is keeping a dairy of 32 grade Holsteins. This herd will gradually be increased to 100 head. From 400 to 700 hogs are sold from this farm each year.

Many hogs are being offered for sale, but, for the first time, buyers are discriminating against unfinished hogs. All hogs from the Project are shipped to San Francisco and Los Angeles. The price for this week was $6.65 for light, and $5.65 for heavy hogs. But few of those being marketed are well finished. Most of the fattening hogs have been allowed to run on alfalfa pasture or have been fed grain but a short time. Judging from the product at the local meat markets, and that served to the local trade, the pork is characterized by an absence of firmness,. The flavor too is not of the best.

Considerable wool was sold from the Project the past week for 23-1/2 cents. On Tuesday the price dropped to 22 cents while some buyers received orders to stop buying. There is yet considerable wool to be sold.

The first crop of alfalfa in the hail affected area is yielding only from 1/6 to 1/3 tons to the acre. In other sections it is averaging less than a ton to the acre. The quality is poor.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

The following notes are taken from Mr. Rinehart's monthly report for April:

The work being done in connection with the swine industry is now irganized along three lines; Cheaper production; Boys' pig clubs; and the control of disease. In the production work, the use of the best breeding stock, with a good registered boar at the head of the herd, is emphasized. Because of the high price of grain, it has been quite a problem to carry the breeding stock and stokc hogs. This has been done successfully in some cases by feeding cull potatoes or sugar beets and alfalfa hay with little, if any, grain. In order to finish the stock hogs, a large acreage of field peas has been sown for hogging off purposes.

It appears that the best and most accurate results will be obtained from the work of the boys' pig clubs. Each club has met regularly every two weeks and has been given an hour's instruction at each meeting. At the close of school each boy will be visited from time to time, photographs will be taken and assistance will be given in connection with the keeping of records.

8 There have been no outbreaks of cholera on the South side since March 13. All infected farms on that side have been cleaned and disinfected and it is hoped that that part of the project is free from the disease. Cholera appeared for the first time on the North side on April 2. The fact that it was introduced from Nebraska, on machinery or in litter rather than from the other infected areas of the project, indicates that it probably never will be possible to keep the project entirely free from the disease.

There has been some trouble among the sheep which were taken from the farms to the summer range during the month. In the cases investigated the symptoms were somewhat varied in different bands, but it was usually suspected that the trouble was due to death camas. The sheepmen were at a loss as to the exact cause of the trouble. Samples of the salt used were analyzed and samples of the death camas were sent to the university to be indentified. It was found that the camas was the poisonous variety (Zygadenus venenosus). It was also found that the salt contained oxide of arsenic. The quantity of arsenic varied in different samples, but in one case it was found that it was possible for a sheep to get at least 4 milligrams at one dose. This salt came from the salt beds near Great Salt Lake and it is believed that it had been contaminated by smelter smoke from the smelters in the vicinity of the lake. The salt was purchased at Burley from a supply being sold to the stock men on the project.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

The following articles were prepared and published in the local papers during the month:

The Eradication of Lice on Hogs.
Hog Cholera.
The Growing of Corn.

During the month 52 farms were visited and 14 meetings were held, at which the total attendance was 232. Eleven cholera reports were investigated and two outbreaks were found. Two herds, which included a total of 66 hogs, were treated. None of the treated hogs was lost during the month.

During the month ten cars of hogs were shipped from Burley and five from Rupert.

Boise.

Mr. Ireland's report for week ending June 5, 1915, is as follows:

Two days were spent in the office attending to correspondence, issuing circular letters relative to the hog cholera situation, and making out reports. One afternoon was spent with Project Manager Geo. H. Bliss and Supervisor or Irrigation, I. D. O'Donnel, of the Reclamation Service, in driving over various parts of the Project and making a few calls.

On Friday a visit was made to Ontario, Ore. to consult with County Agent Howard of Malheur County concerning the work in that part of the Project lying in his County. There is only a small portion of the Project in Malheur County and as the Oregon County Agent has done considerable work in that district, he was consulted before any work was undertaken there. The afternoon of that day was spent in making a few calls in the Big Bend section, Malheus County which is one of the finest districts of the Project. This district is given over quite largely to the production of corn, the record yield last year for the Project and for both Oregon and Idaho as far as known being made in that place. This record was soemthing over 121 bushels per acre and other yields nearly as great were made there.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

Aside from the above work the week was mostly spent in the investigation of trouble among hogs although only one case of cholera was found. This case was on the farm of Sam Bollinger of Fargo and is the first case of cholera that has ever been known in the Fargo district, except those reported some time ago on the farms of Mr. Cross and Mr. Wilson who live on the Green leaf bench above the Fargo Flat. Mr. Bollinger had no idea of how the disease was brought to his place. He had lost but one hog up to the time of the visit, but had several visibly sick hogs as the trouble had run some time before it was reported. One of the sickest hogs was killed and "posted" and showed pronounced lesions of cholera. The remainder of the herd was given the serum-alone treatment although Mr. Bollinger was informed that he would probably have some further loss in spite of the serum.

Several other suspected herds were visited but no other cases of cholera were found.

On Monday of the week ending June 12, a demonstration along the line of grasshopper control was attempted in cooperation with Count Agent McCall near Greenleaf. The grasshoppers have been inactive during the past month on account of cold, rainy weather but they are still very numerous and threaten serious damage to clover and alfalfa crops as well as grain crops in some cases. The demonstration attempted was with the use of sodium arsenite as a spray which has been highly recommended by the Minnisota Experiment Station for the control of hoppers. On account of trouble with the spraying machine the demonstration was not completed on that day but was taken up later and finished. Seven farmers were present at the demonstration.

On Tuesday, C. F. Doane of the U. S. Dairy Division called at the office and the day was spent with him. We called at the Caldwell Cooperative Creamery, the dairy farms of J. S. Hulbert of Nampa, and G. V. Leighton of Boise, The Cooperative Cheese Factory at Meridian, the Sect. of the Boise Commercial Club and the director of the State Farm Markets Bureau in Boise. It was hoped that Mr. Doane could spend more time in this section and that some meetings might be arranged for him but his time was too short to permit a longer visit.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

Wednesday was spent in Boise consulting with the State Extension officials, the Director of the Farm Markets Bureau, the State Veterinarian and the Project Manager of the Reclamation Service.

On Thursday, County Agent McCall and I again went to Boise to meet the State Sanitary Board. On one of the farms where cholera has broken out and where mote than 300 hogs are said to have been lost, conditions are anything but satisfactory and we wished to meet the Board and urge the enforcement of quarantine regulations and proper care of sick hogs and carcasses. Immediate action was haartily promised by the Board but we have been informed that the man in charge of the diseased herd is a friend of one of the Board members and that the action has been dropped. While in Boise that day we inspected a local unlicensed serum plant with Dr. W. A. Sullivan, Federal Veterinarian, in charge of cholera control work at Twin Falls and H. W. Hochbaum, Director of County Agents for Idaho. We found conditions at the plant far from what might have been wished.

Friday was spent in looking up reported cases of hog cholera in the neighborhood of Kuna. A call had come in to the State Veterinarian's office and I had been requested to investigate the report. Unusual conditions were found upon one farm where a hog had died the day previous. Very strong indications of cholera were present except that the sick hogs showed no temperature, although they were acting just as one had that had died. The carcass was exhumed and examination failed to show any lesions of cholera but the aninal had apparently been very badly constipated and the small intestine had become telescoped for several inches. No vaccination was advised because of the lack of positive indications of cholera but the owner of the herd was requested to report any further trouble. The system of feeding on the farm indicated that the entire tmuble was due to digestive disorders.

The herd which was vaccinated on May 26 and 27 was visited this week. Considerable losses have occurred in this herd among the younger animals since vaccination. In this herd at the time they were vaccinated, out of 81 head of shoats only 9 showed temperatures of less than 104. Vaccination in this case was very uncertain but with the owner's understanding of the uncertainity the greater part of the herd was treated, those with extremely high temperatures or

19 June, 1915.

DEMONSTRATIONS ON RECALAMTION PROJECTS.
Field Notes.

Boise (continued)

those which were in advanced stages of the disease being left untreated. Of the latter practically all have died and a great many of those showing high temperatures have died as well as a few which showed normal temperatures. While the loss has been heavy and the results of vaccination not satisfactory it would seem that sufficient good had been done to pay more than the expense of the treatment.

Huntley.

During the week ending June 12, fourteen farms were visited and thirty-five samples of milk tested for different parties. One trip was made to the experiment farm and experiments being carried on there were reviewed in company with Mr. C. S. Scofield.

Three requests for farm visits were received this week.

During the week a report on the amount of dairy products produced on the project was completed and is submitted herewith.

Dairy products produced on and sold from the Huntley Project from January 1 to June 1, 1915:

Month	Butterfat pounds	Av. Price per pound Butterfat	Value of Cream	Whole Milk		Sweet Cream	
				Gals.	Value	Gals.	Value
Jan.	5000.00	28.5¢	1425.00	200	$30.00	275	$275.00
Feb.	4510.00	27.0	1217.70	270	40.50	244	244.00
Mar.	5010.00	27.0	1352.70	320	48.00	266	266.00
Apr.	4400.00	26.0	1164.00	320	48.00	301	301.00
May	4585.00	22.5	1031.62	320	48.00	366	366.00

Month	Butter		Cheese		Total value of Products
	Pounds	Value	Pounds	Value	
January.....	1509	$331.98	500	$ 75.00	$2136.98
February.....	1445	317.90	500	75.00	1895.10
March.....	1545	339.90	500	75.00	2141.60
April.....	2089	459.58	500	75.00	2047.58
May.....	1920	422.40	200	30.00	1898.09

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson.

Report for week ending June 12:

The principal activity on practically every ranch last week was the harvesting of the first crop of alfalfa hay. The hay on the higher bench lands is in very fine condition, but the yield is hardly up to normal. The hay on the lower land is considerably damaged by the stormy weather of a month ago. The hay harvested in general is considerably later than usual. It is feared that much of the second crop of alfalfa hay will be destroyed by the grasshoppers. Some of the ranchers are taking steps to rid their farms of grasshoppers by various trapping devices that are dragged over the field.

During the past week many dairy animals were tested for butterfat production. Eleven farms were visited upon request. Twelve farmers made visits to the office and five communicated with the office by phone.

During the month of May a trip was made to the Sacramento Valley, California, for the purpose of locating, and assisting in the selection of, dairy cattle for the farmers on the project. As the result of this trip, two carloads of Jersey and Holstein cattle were brought to the project. All of these animals were grades except one registered Holstein bull and one registered Jersey cow. The possibilities of securing additional dairy cattle were carefully looked into in the Sacramento Valley so that some valuable information is now on hand for the use of the project settlers who may later expect to import dairy stock.

During the month of May there was imported to the project 218 head of dairy animals. These included 110 head of grade Holstein cows, 12 registered Holstein cows, 4 registered Holstein bulls, 19 grade Jersey cows, and 9 registered Jersey cows. These cattle were brought from Utah and Idaho. The average price for the grade females was $105.80, plus 8 per cent. commission charged by the local creamery company, which furnished the capital. The cattle which have been shipped in from the Sacramento Valley include 38 grade Jersey females, 1 registered Jersey female, 24 grade Holstein females and 1 registered Holstein bull. The creamery company advanced the money for this importation also, with the exception of that used in purchasing 30 grade females, which two farmers imported from California at a cost of $90 a head.

19 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Truckee-Carson (continued)

In the Sacramento Valley it was found that Holstein cattle are held at a higher figure than Jersey stock of equal quality. It appears that this is due to the extensive advertising that has been given to some famous Holstein animals in that locality.

All the cattle seen in California were in excellent condition. Those brought from Northern Utah and Southern Idaho were rather thin in flesh and, in many cases, were infested with vermin, but on the whole the cattle imported during the month are considerably better in quality than those heretofore brought in.

Recently there has been less difficulty with contagious abortion than was experienced during the past winter. The dairy farmers are being urged to be more cautious about the use of their bulls and it is hoped that the spread of the disease has been checked.

During the month of May 93 calls were received from farmers, 41 farms visits were made, 46 letters were sent out, and one meeting was held.

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

Yuma.

During the week ending May 22 temperatures were recorded as follows: Maximum 101 degrees, minimum 48 degrees, and daily range, 49 degrees.

The construction of a woven wire fence was begun around borders B-38 to 45 to provide a stock pasture for farm work stock and milch cows.

Gravel and cement was hauled and a fifty-five foot concrete siphon culvert built beneath road number two on the ditch between "B" and "C" lands.

Barley was harvested from D-35 and 36, also wheat was harvested from C-36, 37 and 40.

Border C-1 and 2 was prepared and planted to "Black-seed" cotton. Sweet potatoes were planted on A-103.

A great deal of cultivating and hoeing was done among the cultivated crops.

It has been necessary to thin fruit from certain of the two year old peach trees, as the set was very heavy for small trees. Peaches of the Spanish and South Chinese types are bearing fruit and also several apricot varieties.

Several blackberry varieties show indications of being well adapted to these conditions. Both dewberries and blackberries are producing fruit. The loganberry and raspberry varieties are not developing well.

Messrs. G. W. Collins and J. H. Kempton visited the station during the week to secure notes on the Indian corn varieties being grown.

During the week ending May 29, nineteen acres were irrigated. A maximum temperature of 103 degrees was reached, with a minimum of 51. The greatest daily range was 44 degrees.

A serious break in the main Project canal conveying water to the siphon occurred again this week. This is the third break in this canal in the past five weeks. Land on the California side of the Project was given water, but some crops on the Arizona side suffered seriously before water could be had.

A-5 to 7 was plowed, disced and prepared for planting.

Sorghum, cotton and corn plantings were cultivated.

Eucalyptus and date rows, division borders, and cotton plantings were hoed.

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued)

Seed of flax varieties was harvested from A-14_8.

Alfalfa was harvested from A-22, C-41, D-43, E-8 and 9, and roads 1 to 10.

Wheat was harvested from C-38 and 39.

The deciduous orchard was summer pruned. Also dates in planting A-18 to 21 were pruned.

Early potato varieties from A-14_1 were harvested. Some very good potato yields are being obtained this season.

A Durango cotton cultural experiment was planted on A-10_7.

A-7 was planted to a long and short staple cotton variety test.

A-6 was planted to six varieties of cowpeas and four varieties of soybeans.

A-5 was seeded to four varieties of hay millets.

Messrs. C. E. Chambliss, H. V. Harlan, H. D. Humphry and Dr. Rovn visited the station one day this week.

During the week ending June 5, temperatures were recorded as follows: Maximum 102 degrees, minimum 56 degrees, greatest daily range 43 degrees.

Much cultivating and hoeing of crops and waste corners was accomplished. Brush was hauled from date orchards.

Reconstruction of the machinery shed wrecked by wind several weeks ago was begun. Alkaline gravel was hauled to form a more solid floor for the machinery shed.

The first and second cuttings of alfalfa in the "Time-of-Cutting" experiment have yielded as follows:

Alfalfa "Time-of-Cutting" Experiment - Series D.
(Yields reported in field-cured weights)

Plat Number	Date Cut	Yield Per Acre (Tons)	Average	Date Cut	Yield Per Acre (Tons)	Average	Yield Per Acre	Ratio 1st to 2nd Cuttings
18	4-5	.81		5-15	1.04			
23	4-5	.933	.872	5-15	1.15	1.095	1.967	1 : 1.26
20	4-10	1.63		5-22	1.38			
24	4-10	1.22	1.425	5-22	.994	1.187	2.612	1 : .832
21	4-19	1.093		5-27	1.531			
25	4-19	.947	1.02	5-27	1.236	1.384	2.404	1 : 1.36
22	4-26	1.39		6-3	1.435			
26	4-26	1.25	1.32	6-3	1.725	1.58	2.9	1 : 1.19

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Yuma (continued)

During the week ending June 12, the maximum temperature was 107.5°, minimum 55°, and greatest daily range 50°.

It now seems quite probable that serious damage will not be experienced by flood water from the Colorado River this season as the crest is thought to have passed at about eight feet above normal.

The erection of the machine shed was completed. Cultivating and hoeing continues each week, as weeds are making a most rapid growth.

Barley was harvested from D-37, 39, 40, 41, and 42 and wheat from C-39. These late grains are uniformly poor.

Border C-38 was prepared and seeded to three varieties of rice. This is one border on the experiment farm that holds water for a number of days after irrigation.

The Durango cotton thinning experiment on C-27 was thinned on the seventh and eighth.

Cowpeas for green manure improvement of the soil were seeded on borders C-6,7 and D-6, and 7.

Early melons and cantaloupes are ripening quite rapidly.

Variety plats of onions were harvested giving some extremely high per acre yields. The best plat yielded at the rate of 45.6 tons or 1900 bushels per acre. The variety was White Bermuda.

Visitors at the station this week were Mr. T. D. Urbahns of the Department of Entomology and Mr. F. W. Waite, County Horticultural Commissioner of Imperial County.

San Antonio.

The maximum temperature for the week ending June 12th was 95° and the minimum 69°. Precipitation none.

The farm roads were graded and the alleys between the plats in the rotation experiments were cultivated and weeded during the week. Cotton was also weeded. Plats A5-7,13,17, A6-5,8,9 and A4-13 and 17 were plowed the later part of the week.

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

San Antonio (continued)

The milo on the rotation experiments is beginning to ripen and a boy was engaged to keep the birds from injuring the crop. Cotton is well advanced and under normal conditions would be flowering at this time, but owing to an extremely severe infestation of the boll weevil nearly all forms are dropping. The weevils are the most plentiful this season that they have been for several years.

Mr. R. M. Meade arrived at the station on the 6th for a months stay. Mr. C. R. Letteer has been transferred to the office of Cereal Investigations and left Saturday for Woodward, Okla.

Oats from the rotation and from the pasturing experiment were threshed during the later part of the week. The yields obtained are the highest since oats have been under trial here.

Oat Yields from the Rotation Experiments 1915

Plat No.	Grain and Hay		Grain	
	Pounds Per Plat	Tons Per Acre	Pounds Per Plat	Bushels Per Acre
A4-5	1074	2.15	243.0	30.4
A4-13	814	1.63	163.0	20.4
A4-17	884	1.77	196.0	24.5
A5-9	818	1.64	134.0	16.7
A5-13	760	1.52	122.0	15.3
A5-17	662	1.32	108.0	13.5
A6-16	570	1.14	77.5	9.7
B5-8	1048	2.10	201.0	25.1
Average	829	1.66	155.6	19.5

Oat Yields from the Pasturing Experiment 1915.

D3-1	268	0.54	92.0	11.5
D3-2	961	1.92	286.0	35.7
D3-3	1067	2.13	255.0	31.9
D3-4	1085	2.17	242.0	30.3
D3-5	1090	2.18	261.0	32.6
Average	895	1.79	227.0	28.4

Plats 3,4, and 5 were not pastured. Plat 2 was pastured from February 7th to February 20th. Plat 1 was pastured 15 days later or until March 7th.

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson.

Report for two weeks ending June 12.

The freezing weather which occurred early in May did considerable damage to the alfalfa in all parts of the project. Some fields were left practically uninjured while the portion of the alfalfa bove ground in other fields was all killed. On the majority of farms the condition of the alfalfa did not appear to be serious immediately after the freeze but later observation showed that the alfalfa was making little growth. A few farmers cut their fields immediately but the great majority waited until the first of June, hoping that the alfalfa would again start growing. After that date it became certain that better results would be obtained by cutting immediately and active haying began over the project. Farmers near Fallon estimate their crop at 50% of normal while those on the Swingle and Fernley Benches claim they will get 75% of the usual crop.

Mowing began on the farm June 1, and by the end of the week the greater part was in stack. The total yield of all plats was 20, 120 pounds from an area of 13 acres, a yield of 1550 pounds per acre. It is interesting to note that the yield per acre of the first cutting in 1914 was 3420 pounds. Judging from this result the 1915 crop is only 45% of the 1914 crop. The yields from the individual plats were as follows:-

Plat No.	Pounds	Area	Pounds per Acre
F- 1	665	.5	1330
2	290	.5	580
3	710	.5	1420
4	715	.5	1430
5	1155	.5	2310
6	980	.5	1960
7	665	.5	1330
8	815	.5	1630
H- 4	510	.35	1458
5	555	.30	1850
6	305	.23	1327
7	200	.17	1178
12	580	.28	2035
13	860	.28	3075
14	880	.28	3141

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Plat No.	Pounds	Area	Pounds per Acre
H-21	595	.34	1750
22	570	.34	1675
15	775	.36	2150
16	1000	.43	2325
17	305	.50	610
18	890	.57	1563
19	1135	.61	1860
20	570	.62	935
E- 1	730	.49	1490
2	1135	.51	2225
3	820	.54	1520
G- 2	160	.35	457
Z	1550	1.50	1032

A general irrigation was given to gardens, orchards and field crops. Foxtail was removed from the fields and ditch banks. The oleaster hedge was trimmed.

The pigs in the pasture experiment have not made as satisfactory growth as could be desired, the average daily gain having been only .74%. The Durocs are a more uniform lot than the Berkshires and have made better average gains, the ration of daily gains being 76% to 71%. The average daily net income per acre is 39 cents.

Third Period - May 29 to June 5.

	Durocs	Berkshires	Durocs Berkshires
Number of pigs.....	5	5	10
Initial weight, pounds.....	244.0	182.5	426.5
Final weight, pounds.....	261.5	194.0	455.5
Total gain, pounds.....	17.5	11.5	29.0
Daily gain, pounds.....	2.5	1.64	4.15
Daily gain per acre, pounds...	20.	13.12	16.57
Daily gain, percent.....	1.00	.88	.94
Barley fed, pounds.....	34.2	25.5	59.7
Cost of Barley @ 1-1/2 ¢.....	.51	.38	.89
Value of Gain @ 7¢ a pound....	1.23	.81	2.04
Net return	.72	.43	1.15
Daily net return per acre.....	.82	.49	.66

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WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Truckee-Carson (continued)

Fourth Period June 5 to 13.

	Durocs	Berkshires	Durocs Berkshires
Number of pigs.....	5	5	10
Initial weight, pounds.....	261.5	194	455.5
Final weight, pounds.....	275.0	201	476.0
Total gain, pounds.....	13.5	7.0	20.5
Daily gain, pounds.....	1.93	1.00	2.93
Daily gain per acre, pounds...	15.4	8.0	11.72
Percent daily gain.....	.72	.51	.63
Barley fed, pounds.....	36.6	27.2	63.8
Cost of barley @ 1-1/2 ¢	.55	.41	.96
Value of gain @ 7¢ a pound....	.95	.49	1.44
Net return.....	.40	.08	.48
Daily net return per acre.....	.46	.09	.27

Four Periods - May 1 to June 12 - 27 days.

Number of pigs.....	5	5	10
Initial weight, pounds.....	224	166	390
Final weight, pounds.....	275.0	201.	476
Total gain, pounds.....	51.	35	86
Daily gain, pounds.....	1.89	1.30	3.19
Daily gain per acre, pounds...	15.10	10.40	12.75
Per cent daily gain.....	.76	.71	.74
Barley fed, pounds.....	130.8	96.7	227.5
Cost of barley @ 1-1/2 ¢.....	1.96	1.45	3.41
Value of gain @ 7¢ a pound....	3.57	2.45	6.02
Net return.....	1.61	1.00	2.61
Daily net return per acre.....	.48	.30	.39

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche.

During the week ending June 12, the maximum temperature was 72, minimum temperature 33, and precipitation 1.94 inch.

The planting of corn on the dry land in field P was completed. Sorghum in the dry land rotations and sorghum and millet varieties were planted in field G. The corn in field O was hoed and cultivated. The balance of the time was used in cleaning up roads and alleys and the trees and shrubs in the grounds and the dry land orchard.

The hogs on alfalfa pasture in Field A were weighed on June 12. The following table shows the gains made by the hogs and net returns per acre for each period since May.

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A
			Initial	Final	Total	% Daily	Per Day Per Hog		
			Lot 1 - Rotation 65.						
5/5-5/14	9	4	499.0	570.0	71.0	1.48	1.97	89.8	$16.32
5/14-5/24	10	4	570.0	618.0	48.0	.81	1.20	114.0	8.88
5/24-6/3	10	4	*618.0	633.0	15.0	.24	.37	114.4	- 0.36
6/3-6/12	9	3	477.0	505.5	28.5	.64	1.05	85.5	4.56
Totals...	38				162.5				29.40
* One hog was taken out on May 31.									
			Lot 2 - Rotation 69.						
5/5-5/14	9	5	595.0	690.5	95.5	1.66	2.12	107.1	$12.44
5/14-5/24	10	5	690.5	737.5	47.0	.66	.94	138.1	7.64
5/24-6/3	10	4	569.0	583.0	14.0	.24	.35	113.8	- 0.60
6/3-6/12	9	3	450.5	489.0	38.5	.91	1.42	81.0	7.52
Totals...	38				195.0				37.00

Using the figures in the above table the gains made since May 5 have cost 2.48 pounds of corn per pound of gain in Lot 1 and 2.25 pounds of corn in Lot 2.

Charging $10.00 per acre rent for alfalfa, the gains cost 5.28 cents per pound on Lot 1 and 4.51 cents per pound on Lot 2.

The new rotations of corn (hogged), corn (hogged), oats, alfalfa, alfalfa, alfalfa (pastured), has been given the number (69).

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Belle Fourche (continued)

During the week ending June 19, the maximum temperature was 76, minimum, 41, and precipitation 1.18 inch.

All the alfalfa in Field A has been mowed and about half of it was raked and a few plats cocked, when rain stopped operations. All the alfalfa on the ground was in the cock when the rain came and will have to be spread out again to dry before stacking.

The blocking of the beets in Field A was started and about five plats finished.

When the weather would permit, a couple of the men have been pruning the forest and most of the brush has been hauled away.

Some work has been done on roads and alleys and during the rainy weather, harness and machinery were cleaned and repaired.

Mr. Scofield arrived at the station on June 13 and left June 17. Mr. Aune left the station June 18, for Salt Lake City, and expects to return about the first of July.

Scottsbluff.

The weather during the week ending June 12 was not very good for plant growth or farm work. On Monday, June 7th, the temperature went to 32, doing some slight damage to crops and even some of the corn was very badly nipped by this frost. We have had some light showers five days of the week, making a total of .78 inch. The only farm work that we were able to do was to cultivate the sugar beets and begin thinning. The rest of the time was out in cutting weeds, when it was dry enough, and odd jobs when we could do this kind of work.

We started to cut the alfalfa, but had to give this up on account of the rainy weather. In this valley fully one-fourth of the hay is down. A great deal of it is being hauled out and thrown away, asit is practically rotten.

Corn is making but very little growth on account of the cool weather. The sugar beets are also at a standstill, making but very little progress. The small grain is the only crop that is making good headway this year.

Today, June 12, we are having a high cool wind from the northwest, and we hope that this is the end of our rainy season.

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Scottsbluff (continued)

The high winds reported last Saturday, June 12, did considerable damage to the growing crops, specially the sugar beets. The Sugar Factory reported that little more than 900 acres of beets were destroyed and that practically 1,600 acres were badly damaged.

Following the wind, on June 20, a heavy frost fell that did some damage to the taller grain, specially the oats. This week has given us the best weather we have had since last winter, only .05 inch of rain fell.

All of the alfalfa hay was cut down during the week and is now being put up. The hay for the most part is in very good shape.

The alfalfa plats of the hog pasturing experiments were irrigated during the week, but in spite of the irrigation the alfalfa is making very little growth.

All of the corn was cultivated and the potatoes were harrowed. On account of the large amount of moisture in the soil the volunteer alfalfa is causing much trouble in the corn and the sugar beet plats.

During the week Mr. Scofield and Mr. Farrell, of the Washington office called here. Prof. Swenk of the State University has been here for a few days; Mr. Gates of the University is also here for the summer. Mr. Gates will continue the alfalfa pollination and alfalfa insect studies during the season.

Huntley.

Because of rains very little field was done during the week ending June 12. The precipitation for the week was 2.87 inches. The total precipitation since June 1 is 5.09 inches.

Nearly all crops are in good condition. Beets are in most cases recovering from damage caused by the carrion beetle earlier in the season. The harvesting of the first cutting of alfalfa and the thinning of sugar beets is being delayed by the cool wet weather.

Mr. Scofield visited the farm from Tuesday to Thursday.

In connection with the establishment of pastures on the project, the results secured by Mr. A. J. Bowman, a farmer living about one-half mile east of the Experiment Farm, are very encouraging. Mr. Bowman in 1914 planted 5-1/2 acres to a mixture of fine grasses.

26 June, 1915.

WESTERN IRRIGATION AGRICULTURE.
Field Notes.

Huntley (Continued)

The grasses and the amount of seed used of each on the full five acres are as follows: Alsike Clover, 14 lbs.; Timothy, 22 lbs.; Kentucky bluegrass, 14 lbs.; Orchard grass, 28 lbs., and Tall meadow fescue, 12 lbs., making a total of 90 lbs., or at the rate of 16.3 lbs. per acre. The total cost of this seed was $15.60, or about $2.84 per acre. Four acres of this land was cropped to oats in 1913 and the remainder to beets. The land was prepared for seeding in the fall of 1913 after the crops were removed. Seeding was done in the spring of 1914. A part of the seed was sown broadcast while the snow was still on the ground and the remainder was planted with a grain drill later on, sometime during the later part of April. An excellent stand was secured on all parts of the field. The only treatment given the field during the first year was to keep it clipped to prevent weeds and volunteer oats from seeding, up to about September 1. From this time until about the 15th of October the land was pastured. Soon after April 20, 1915 three cows and four horses were placed on the pasture and have been on the pasture about two-thirds of the time since that date, having been kept off during wet weather and once while the pasture was being irrigated. The pasture is not divided. It is too early to state, at this time, the effect of continuous pasturing but at the present the growth of grass is too high for good pasture and will have to be clipped unless more stock are put on.

During the week ending June 19, the maximum temperature was 77, minimum 39, and precipitation .33 inch.

Field work was delayed somewhat this week because of occassional showers.

Beets have been thinned and alfalfa is being harvested.

A few cases of hog cholera have been reported on a farm located just east of Huntley on the main irrigation canal. Serum has been secured and the remainder of the herd vaccinated. The hog on the experiment farm will be vaccinated in a few days.

Two meetings were held on the Project during the week, one at Osborn and one at Worden, to discuss a proposed cheese factory. Mr. C. F. Doane, of the Dairy Division of the Bureau of Animal Industry and representatives of the Yellowstone Creamery were present.

Mr. Hansen left for Salt Lake on the 18th. Mr. Edward Noble, a graduate of the Montana State College arrived on the 14th and will attend to the irrigation rotations.

26 June, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.

MANURE FROM FARM ANIMALS.

Indiana Circular 49, "Farm Manures", contains some interesting information relative to the quantities and values of manure produced by different classes of farm animals. The values are arrived at by using average figures of nitrogen, potash and phosphoric acid content and average production figures, and by valuing nitrogen at 15 cents a pound, potash at 6 cents a pound, and phosphoric acid at 3-1/2 cents a pound.

Table 1 shows the quantity, composition, and value of manure from different classes of farm animals:

Table I.

	Horse	Dairy Cow	Steer	Sheep	Swine
Pounds of manure produced per day per 1000 lbs. live weight.....	35-45	70-80	40-50	30-40	40-50
Pounds per ton, --					
nitrogen.....	11.8	9.7	13.8	27.5	15.2
phosphoric acid...	5.6	5.4	5.6	9.9	9.5
potash.....	14.6	9.4	10.5	22.7	14.6
Value per ton on basis of analysis	$2.84	$2.21	$2.90	$5.83	$3.49
Tons of manure produced per year per 1000 lbs. live weight.....	7.0	12.7	7.5	5.5	7.3
Value of manure produced per year per 1000 lbs. live weight.....	$19.88	$28.07	$21.75	$32.06	$25.48

The Circular says, "For the purpose of estimating as accurately as possible the average annual preventable loss from farm manures, it is assumed the one-fourth of the manure from horses, one-third of that from dairy cows and other cattle, and one-half of that from sheep and swine, is either deposited on fields and pastures, where, according to Hall, little loss takes place, or is dropped in roads and lanes where its loss cannot be prevented. It is assumed further, that it will take six average sized hogs and seven average sized sheep to weigh 1000 pounds; that the average weight of all horses, mules, and colts combined, and the average weight of dairy cows, is 1000 pounds; and that the average weight of all other cattle is 800 pounds. On the basis of these assumptions and the figures given in Table I, the manure saved from each farm animal per year should approximate very closely the amounts and values given in Table II following."

26 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Manure from Farm Animals (continued)

Table II

	Horses, Mules and Colts	Dairy Cattle	Other Cattle	Sheep and Goats	Swine
Tons of manure that may be saved from the average animal during one year....	5.2	8.5	4.0	0.39	0.61
Value of manure that may be saved from the average animal per year.....	$ 14.77	$18.78	$11.60	$2.27	$2.13

The circular discusses, in addition to the above tables, loss from fermentation; loss from leaching; methods of reducing losses; principles governing the use of manure, and other topics. Copies can be secured by application to The Director, Indiana Experiment Station, Lafayette, Indiana.

F.D.F.

FIELD NOTES.

Shoshone.

During the week ending June 12, twelve farms were visited. Six men called at the office, and two milk tests were made.

Contagious abortion was discussed with two men. Prof. C. H. Eckles having been written about the disinfection of bulls, answered that the practice is advisable but not to be relied on wholly so that a bull should by no means serve a doubtful cow.

The plan of keeping milk records has been changed slightly for a trial. The permanent record of each cow instead of being kept by the farmer will be kept in the office, so that the data will be kept more uniformly and will be better available for consideration and reference.

Regarding the bloating of cows on sweet clover, one man reported that one of his cows bloated so badly that the use of a trocar was necessary. Another reported that one of his cows bloats often on sweet clover and that she is relieved by putting a gag in her mouth and standing her with her head up hill. Another reported a cow bloating in a sweet clover pasture, but thinks she may have gotten some alfalfa which is in one part of the field.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Shoshone (continued)

Regarding the effect on breeding in cows of feeding alfalfa alone, one man reported that nothing but alfalfa hay has been fed three of his cows for three years, (except a little grain during the first winter), one cow for two years, and two heifers since they were born, and that each cow has gotten with calf at the first service, except two cows once needed the second service.

Two members of the Pork and Crop Production club were visited and a circular letter was sent to each member of the club.

A sow on one farm and some shoats on another were reported sick. They were visited and the conclusion drawn that they were poisoned by eating cockle burr sprouts. That is quite a problem on the Shoshone Project, as the cockle burrs are carried from farm to farm along the irrigation ditches. It seems that it may be necessary to fence the hogs away from the irrigation ditches.

In discussing with one man, the construction of a dairy barn, he brought out the point that he would like enough loft room for hay to feed in windy weather, in order to prevent loss of alfalfa leaves. There is much difference of opinion on the advisability of having a hay loft in the barn.

Tieton.

Fourteen farm surveys were made during the week ending June 12, and dairy record work planned and started at Mr. Oberg's. Mr. Borton's seven shoats were reweighed and an afternoon was spent with Mr. Westover in examining the unsatisfactory condition of alfalfa in Wide Hollow.

From May 15 to June 1 Tieton dairymen sold cream as follows: To the Yakima City Creamery 3000 pounds of butter fat and to Bradner's Creamery 2538 pounds butter fat. From May 15 to 24 they received 22 cents per pound and from May 24 to June the price was 24 cents. The total payed them for fream during this period is 1274 dollars.

The total weight of Mr. Borton's seven shoats at the beginning of the feeding period was 1358 pounds, the average weight 193 pounds. The total final weight was 1503 pounds, average 214.7 pounds. They had freshly cut alfalfa always before them and consumed a total of 980 pounds during the fourteen days. The grain ration was approximately 4 per cent rolled barley; the total amount fed was 784 pounds. The hogs were valued at 7 cents at the beginning of the period and

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Tieton (continued)

at 7-1/4 at the end. (Quotations from a local buyer). Initial value of hogs, $95.06. Final value, $108.96. Value of gain was $13.90. Cost of barley (at $30. per ton) $11.76. Difference of $2.14 to apply on alfalfa and labor of cutting and feeding same. This lot will be fed for at least ten days more and a final weighing will be made.

The average annual rainfall of the Yakima Valley is eight inches. In view of this fact the 1.11 inches of rain that fell this week is extraordinary.

Corn is looking much better than at any time previous. It has made a better growth and has a much better color. The same is true to a lesser degree of small grains.

Mr. Westover of the Bureau of Plant Industry, and Mr. Rockwood of the Bureau of Entomology, spent a day in the alfalfa fields of the project. Eight farm surveys were made, three conferences held at the office and some time was given to a review of the surveys previously taken and the problems which they present.

Mr. Rockwood found considerable evidence of the presence of the clover root curculio on alfalfa roots. The larvae were present in moderate numbers as were the pupae. But few of the adults were found. It is supposed that the unusually severe winter of 1914-15 killed off the majority of the insects because the small number found can not be responsible for the damage done. In as much as the insetc damage is not sufficient severe to cause the present unsatisfactory condition on many fields, Mr. Westover concludes that the trouble is due more to soil conditions than to the insects.

Water was first put on the alfalfa fields, visited as mentioned above, in 1910. The first yields were excellent. The soil is from three and one-half to five and one-half feet deep where borings were made. In one case the soil of the last foot was so wet as to be slimy. Mr. Westover said that a four foot soil, especially where the drainage is poor, will not grow alfalfa profitably for over four or five years. Crop rotation, however, will result in a greater acreage of corn and small grain with better yields by reason of the soil having previously grown alfalfa. Insect pests, plant diseases and soil conditions can all be more easily controlled under diversified cropping.

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Field Notes.

Tieton (continued)

Mr. Worrell planted five acres of corn for silage. The stand is very poor and he will inter-plant cowpeas and soybeans (two and one-half acres each) to help fill the silo. These seeds will be supplies with inoculation as neither of these legumes have been grown in this section.

Mr. J. C. Charlton has a four acre pasture of orchard grass, white, red and alsike clovers, alfalfa, timothy and blue grass. The soil is from four to eight inches deep, underlaid with an impervious hardpan. He has three yearlings on this pasture all the time, has six cows on it every night and for a few days at intervals while irrigating an alfalfa pasture or when wild pasture gives out and occassionally pastures his team there. This pasture is not divided for alternate grazing.

Huntley.

During the week ending June 19, thirteen calls were received at the office from farmers and others interested in the demonstration work. Two requests for farm visits were received. Seven farm visits were made during the week. Two trips were made to the experiment farm; on one of these trips two farmers were taken along and the work being carried on at the experiment farm was explained by Mr. Hansen. A pig feeding demonstration, in connection with Mr. Sheff, was started on the fifteenth.

On Wednesday night a farmers meeting was held at Osborn. On Thursday night a similar meeting was held at Worden. Mr. C. F. Doane, of the U. S. Department of Agriculture, discussed problems that are met in connection with the establishment and operation of a cheese factory. Mr. Doane advised the farmers that the conditions here, with the possible exception of the number of available cows to supply milk, are ideal for a cheese factory. He advised them, however, to make sure of their milk supply before attempting either a cheese factory or a creamery. Mr. Sampsel, manager, and Mr. Soar, butter maker, of the Yellowstone Creamery Company, were also present and made short talks at each meeting. They urged the farmers to greater efforts along dairy lines and especially pointed out the advantage of taking proper care of the cream in order that it might reach the creamery in good condition, the creamery thereby

26 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Huntley (continued)

being able to manufacture a better finished product and consequently pay the farmer a better price for his raw material. During Mr. Doane's stay on the project several farms were visited and the farmers interviewed regarding the cheese factory question. There was about an equal attendance at each meeting, eight-five or ninety in all. Much interest was shown but the sentiment of the farmers present did not seem to be in favor of the establishment of a cheese factory on the project at this time.

On Wednesday Mr. McCaffery reported that his hogs were sick. The next morning, in company with Deputy State Veterinarian Haterscheid, and investigation was made. Unmistakable symptoms of cholera were found. One hog had died and two others were very sick. No post mortem was held as the hog that had died had been burned and the owner was not inclined to kill either of the sick ones. However, in the opinion of the veterinarian present there can be little doubt that the case is genuine cholera. It is impossible to definitely trace the source of infection, unless it may have come in some manner from the railroad which runs within a few feet of where the hogs are pastured. Serum ws ordered and on Thursday morning twenty-two hogs were vaccinated for Mr. McCaffery. The neighbors were all warned of the situation and advised to immediately vaccinate all hogs that could not be readily marketed. They all want to wait, however, until they see signs of sickness in their own herds before vaccinating. Mr. McCaffery has posted signs about his hog pasture warning all to keep out and will do every thing in his power to prevent the spread of the disease.

Boise.

Four days of the week ending June 19 have largely been spent in answering calls regarding hog cholera and other troubles among swine. Only one case of cholera has been found. however, and it was apparently a very mild form, although two hogs had died in the herd and several others were visibly sick. This herd ws vaccinated on Tuesday and visited again on Thursday and conditions appeared very much improved. Most of the suspected cases have been in the neighborhood of Kuna, although one call came from Fargo. On the day spent in the Fargo district the herd which was vaccinated there on May 31 was visited. Two hogs had died since vaccinate and there may still be some slight losses although conditions are looking fairly well. While in the vicinity of Kuna on Tuesday a meeting was arranged for Saturday night at that place, for the purpose of discussing the cholera situation and its control. This meeting will be reported

26 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

next week.

While in the Fargo district on Wednesday two farms were visited where they are growing peas for a "hogging off" experiment, which we shall later designate as a demonstration, if it turns out well. Peas have not been grown extensively in that district heretofore and even in a small way have not given good results. The two men who have planted peas on a larger scale have both used Early Alaska and Advancer Varieties for the purpose of making a variety test. At this time although the peas were planted rather late, they are giving considerable promises of fair yields. The Early Alaska variety is nearly through blooming and is setting on a fair number of well filled pods while the Advancer peas are nearly 10 days later. Another field planted with the same varieties near Caldwell was also seen that day. The peas in this field are poor and very small and promise nothing but disappointment. Just what is the reason for the failure in this case has not yet been determined. A number of other men have planted peas for similar tests but they have not been visited recently so no report can be made at this time. A few will also make reports on "hogging off" wheat, barley, and corn.

One day was spent with a number of farmers of the Sunny Slope district in going over the gresshopper situation and examining a number of infested fields. The hoppers, which have never been troublesome in that district before, are serious in one locality and an effort will be made to control them. For this purpose a combination of spray and poison bait will be used. It is late to undertake any methods of control but on account of the small area infested it is hoped that some results can yet be obtained. The experiment will be reported upon after results are known.

Friday was spent with Mr. A. S. Gulley of Deer Flat district in beginning construction of a concrete silo. This silo is to be 14 by 34 feet and will be the first silo of any kind in that part of Deer Flat. A number of other silos are in prospect for the summer but it is not definitely known how many will materialize.

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DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Boise (continued)

Hog Cholera Up to Date.

As far as reports to this office show, the hog cholera situation is a little brighter at this time in the Boise Valley than it has been for some weeks. With nearly two dozen organizations formed for the purpose of preventing and controlling the disease, suspected cases are being reported much more promptly than formerly, and a growing sentiment against the man who will attempt to conceal losses or sickness among his hogs to escape quarantine is in evidence.

On most of the farms where cholera has appeared, reasonable care seems to have been taken to prevent the spread of the disease but in a case or two, proper respect to quarantine regulations has not been shown and proper disposal of carcasses has not been practiced.

The danger of letting a disease that may be hog cholera run for a week or more without being diagnosed, of neglecting any possible precaution to prevent its spread through the herd or to other herds, and especially of leaving carcasses unburned where dogs, birds or other agents have access to them, can hardly be over estimated.

Within the past few weeks cholera has been reported from at least ten separate localities in the Boise Valley, reported losses running as high as 300 head from a single herd. The situation has been and is serious, but the organizations that have been formed will undoubtedly be effective to a great extent in controlling it and are to be highly commended.

Sanitation and the use of reliable disinfectants, keeping hogs free from lice and worms, prompt action when the first hog hoes "off feed" or otherwise shows signs of sickness, isolation of sick hogs and burning of dead ones, observance of quarantine rules and the judicious use of potent anti-hog-cholera serum are among the secreats of cholera prevention and control.

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DEMONSTATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka.

Mr. E. F. Rinehart's report for the month of May.

The work, as of past months, was more with the swine industry than any other line.

Final meetings were held with the Boys' clubs before the end of the school term. Instructions as to the keeping of records have been given so that the club members can get along with but little assistance. The Department of Agriculture has appointed Mr. Hoke of Twin Falls to work with the Boys' and Girls' clubs this summer and by alternating visits it is hoped to keep each boy interested all summer.

During the month the price of hogs reached the highest point since last fall, $7.10 being paid. A few extra choice lots were sold for $7.25. This brought out the fact that many hogs were being held in the Northwest for they were rushed to market in such large numbers that some buyers were unable to handle all offerings so that some growers had to wait a week or two. The price of hogs dropped to $6.85. On the Minidoka project, however, not many were finished. Many unfinished hogs were offered which the buyers refused.

The month was a busy one for the farmers. As a whole the weather was wet and cold the entire month. However this has supplied the moisture that was so deficient all winter and spring so that all the crops are doing nicely. The snow and cold weather of the first of the month passed away without injury to the farm crops. A severe hail storm on the 28th did much damage to the South Side, practically destroying the first crop of alfalfa and damaging the sugar beets, field peas, grain and fruit to some extent. About one-fifth of the project was affected by this storm.

There was a marked decrease in the number of calls for visits and assistance. This was anticipated, however, as the farmers have been very busy. The summer season as a rule is somewhat slack for field work in comparison with the winter season, yet it appears that here the summers will be busy. The greatest problem will be handling the work and calls in the winter yet this can probably be done by more time in the office than has been the custom. It is always planned to spend Saturdays in the office and the rest of the week in the field. Under present conditions, however, a Saturday is so broken up by visitors who remain from 20 minutes to 2 hours or longer that but little can be accomplished. Telephone calls on Saturday are also

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka
Minidoka (continued)

numerous. It is usually necessary to postpone much of the work planned for Saturday such as reports, newspaper articles and the like to Sunday.

While the number of calls for assistance was less than for the past three months they were all along the line that the work is planned and in practically every case could be given. Formerly requests were made for assistance in analyzing soils, pruning fruit trees and the like. While such assistance cannot always be given personally an explanation is made and the desired information or assistance secured from the State University or some of the State or Federal field men.

The work as a whole is along the line of the swine industry. This is due to the fact that the interest in swine growing is greater than along any other line. The, too, the organization of the swine growers is of much value to the work. The survey men and district leaders are the best swine growers on the Project and send in many calls and visitors who have asked them for advice.

While some work is constantly done along other lines, it is unorganized and not well defined. The only exception to this is the keeping of cooperative records with three dairy herds. It becomes more and more apparent that to work for definite results along any one line a community requires the entire time and undivided effort of one man. It is believed, however, that the future will give more time for work along other lines.

A conatant effort is necessary to keep the work from becoming too general. In that case a field worker can work along a definite line only a small portion of his time. As soon as the interest becomes fairly good the leader is forced to give his attention to something else. People are constantly at a loss as to know the real purpose of the work. Nothing is resented more than to have the idea that the field man is sent out to "show people how to farm". Best results are obtained by hammering away along one line until the desired object is sought. The people will then see the direct results and give better cooperation along the other lines attempted.

Another thing that requires time is gaining the confidence and good will of the people. As a rule the man most in need of assistance is skeptical. In this section best results are being secured by reaching this man through his successful and broad minded neighbor.

26 June, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.
Field Notes.

Minidoka (continued)

When he sees the work being done by the neighbor and results obtained he, too, will soon seek assistance.

Cholera again broke out on the Project, appearing on the South Side from which it has been absent since March 1st (except for two imported cases, brought in for free vaccination). The infection was presumably carried from Oakly.

Dr. Henderson, of the Hog Cholera Control office, spent two days vaccinating hogs and investigating reported cases of cholera, and Mr. Hoke, special agent in the Club work, one day, thus making three days given the work by Federal offices.

Becuae of the urgent call of Mr. Ireland four days work was given to the Boise Project in organizing and planning the best method of controlling the hog cholera that is prevalent there.

Newspaper articles appearing in all five papers of the Project were published as follows:

Week ending May 8 - "Pasture Mixtures"
Week ending May 15 - "Worms in Hogs"
Week ending May 22 - "A successful Swine Breeders Association"
Week ending May 29 - "Know your cows"

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